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UNIVERSITY STUDIES

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REST DAYS; A SOCIOLOGICAL STUDY[1]

BY HUTTON WEBSTER

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[1] The author hopes at no very distant period to issue this monograph in amplified form. He would be grateful, accordingly, for any criticisms tending towards its improvement. Several of his colleagues, Professors Alexander, Buck, Sanford, and Swezey, have taken a kindly interest in his researches, answering his questions and making helpful suggestions. Professor C. H. Toy of Harvard University has put him under lasting obligations by reading the manuscript, a service which may be acknowledged, but not requited, by any imperfect expression of gratitude.

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INTRODUCTION

The custom of refraining from labor at certain times and seasons is by no means unknown to peoples in the lower stages of culture. In addition we often meet, as associated practices, the discontinuance of public gatherings, the closing of the house or the village against all strangers, the extinguishing of lights, and fasting, either partial or complete. On such occasions bright and gay dresses may be laid aside, bathing and anointing aban-

doned, songs, dances, and loud noises forbidden. Under these conditions the cessation of labor merges into a cessation of all the usual activities. The day of rest becomes a day of abstinence and quiescence.

It might be thought that such observances, especially those which impose a period of rest, have a rationalistic basis and arise from man's need of relaxation and idleness as a relief from daily toil and the harsh conditions of existence. Yet for the vast proportion of the rest days observed by primitive peoples it would be rash to assume an origin in considerations of practical utility. A survey of the evidence to be submitted suggests rather that the sabbatarian regulations have arisen chiefly, if not wholly, as pure superstitions, the product of an all too logical intellect or of a disordered fancy. In the last analysis they are based primarily on fear, that "feare of things invisible," which Hobbes, foreshadowing modern anthropological theories, regarded as "the naturall Seede of Religion."[2] They find their clearest expression in the "taboos" or prohibitions first noticed amongst the natives of the South Seas, but now known to exist in many other regions of the aboriginal world.[3]

"Taboo" from the Polynesian *tabu,* is one of the few words which the languages of the Pacific have contributed to our English speech. *Tabu* appears to be, properly, the Tongan term, *tapu,* the word as found in Samoa, the Marquesas Islands, the Society Islands, and New Zealand, *kapu,* the Hawaiian expression. The etymology of *tapu* is uncertain, though an attempt has been made to derive it from *ta,* to mark, and *pu,* an adverb of intensity. The compound *tapu* would then mean "marked thoroughly," and would come to signify "sacred" or "pro-

[2] *Leviathan,* chap. xi.

[3] For the leading facts relating to the institution of taboo (as opposed to the numerous theories which have been built upon it) see J. G. Frazer, "Taboo," *Encyclopaedia Britannica,*[9] xxiii. 15–18; *idem, Taboo and the Perils of the Soul,* London, 1911 (*The Golden Bough,*[2] pt. ii.); L. Marillier, "Tabou," *La grande encyclopédie,* xxx. 848–49; A. Bros, *La religion des peuples non-civilisés,* Paris 1907, pp. 185–207.

hibited" in a secondary sense, since sacred things and places were commonly indicated in a particular manner.[4] The word *tapua'i* means "to abstain from all work, games, etc."[5]—a translation which indicates how intimately the idea of abstinence was associated with the notion of *tapu*.

In all the Polynesian languages *tapu* or *tabu* appears to have been employed primarily with an adjectival meaning, referring to something holy, sacred and inviolable, or to something polluted and accursed. The word, we learn, did not imply any moral quality but expressed "a connection with the gods, or a separation from ordinary purposes, and exclusive appropriation to persons or things considered sacred; sometimes it means devoted as by a vow."[6] In a derivative sense *tabu* came naturally to signify "forbidden" or "prohibited";[7] and this is the word's most general meaning in its anglicized form. But in anthropological usage the term "taboo" refers, not to all negative regulations or prohibitions, but to those only which are supported by a supernatural sanction, and the violation of which is visited with a supernatural punishment.[8]

The progress of comparative research has shown that conceptions very similar to the Polynesian *tabu* or *tapu* have a wide prevalence in the lower culture and even amongst peoples of archaic civilization. Thus the Melanesian *tambu*, though never signifying any inherent holiness or awfulness, does refer to the sacred and unapproachable character which things may possess

[4] E. Shortland, *Traditions and Superstitions of the New Zealanders*, London, 1856, p. 101.

[5] E. Tregear, *Maori-Polynesian Comparative Dictionary*, Wellington (N. Z.), 1891, p. 472.

[6] William Ellis, *Polynesian Researches*, London, 1859, iv. 385.

[7] The proper term for "prohibit" was *rahui* (*idem*, iv. 386).

[8] It would conduce to clearness if "taboo" as an English word were used solely as a substantive with the corresponding verbal forms "to taboo" and "tabooed." The word should not be employed as an adjective; for this purpose the native *tabu* may be conveniently retained, since the Polynesian term has a double meaning not adequately rendered by any one English expression.

when solemnly cursed in the name of a powerful ghost or spirit.[9] In Gabun, West Africa, *orunda* meant originally "prohibited from human use." Under missionary hands it grew into its related sense of "sacred to spiritual use." In the Mpongwe Scriptures it serves as the translation of our word "holy."[10] The Malagasy equivalent of *tabu* is *fady,* which means, primarily, "dangerous," but which has the derivative meanings: *sacré,* "prohibited," "ill-omened," "unlucky."[11] Anthropologically, it is no very far cry from such expressions to the Greek ἅγιος, or the Latin *sacer,* since each of these terms conveys the twin ideas of sanctity and pollution.[12]

It is convenient to distinguish between taboos which are artificially imposed by such individuals as chiefs and priests and those which follow naturally as the consequence of certain acts or as the outcome of certain situations. Thus in Polynesia a chieftain might set a taboo over the common crops until harvest time or a private individual might protect his own property through the use of the same supernatural machinery: these were prohibitions analogous to the laws of an advanced society though supported by sanctions both human and divine. On the other

[9] R. H. Codrington, *The Melanesians,* Oxford, 1891, p. 215. In the Banks Islands and the New Hebrides the word *rongo* is employed to indicate the naturally holy character which certain objects may possess quite independently of any human sanction or prohibition (*idem,* 181).

[10] R. H. Nassau, *Fetichism in West Africa,* London, 1904, p. 80.

[11] A. van Gennep, *Tabou et totémisme à Madagascar,* Paris, 1904, pp. 12 *sqq.,* 23.

[12] Professor Frazer points out (*op. cit.,* xxiii. 18) that the Greeks usually discriminated the two senses, ἁγνός being devoted to the sense of "sacred" and ἐναγής to that of "unclean" or "accursed." On the other hand, *sacer,* among the Romans, always continued to retain the double meaning. In his *Kinship and Marriage in Early Arabia,* Cambridge, 1885, p. 307, the late W. Robertson Smith showed that the Hebrew *tāmē* "is not the ordinary word for things physically foul; it is a ritual term and corresponds exactly to the idea of taboo . . ." See *Leviticus,* xi. 1–31, *passim;* xv. 4–26, *passim; Psalms,* cvi. 39; *Ezekiel,* xx. 21, 26, xxii. 5; *Job,* xiv. 4, etc. For these references I am indebted to my friend the Rev. S. Mills Hayes.

hand new-born children with their mothers, strangers, man-slayers, mourners, and other classes, are frequently subjected to taboos which exist in the social consciousness rather as well-defined customs than as specific ordinances laid down by some superior authority. I must, however, express my disagreement with Dr. Jevons's argument that there are some persons and things inherently *tabu,* such as supernatural beings, new-born children, corpses, and blood.[18] Even in these striking and well-nigh universal instances it is legitimate to suppose that a reason has always existed for the ascription of the *tabu* character to particular individuals or objects—although the explanation may not now be forthcoming and although the ideas on which the practice was once based may have become obscure or meaningless with the lapse of time.

A comparative study of the taboos observed by primitive peoples indicates that originally things or persons are tabooed because they are considered dangerous, mysterious, abnormal, uncanny, "awful"—in a word because they are felt to be potent for weal or woe in the life of man. Primitive psychology, refining these ideas and applying them to different classes of phenomena, produces the cognate notions of pollution and sanctity. The corpse is unclean; the shedder of human blood is likewise unclean; but the chief or king who belongs to a superior order of beings is sacrosanct or holy. These characteristics are naturally regarded as infectious, as capable of transmission, not alone by physical contact, but also by sight and mere proximity. It is probably true that in using such expressions as "contagion" and "infection" we are resorting to a refined terminology to express what must be really simpler in the thought of the savage. Living in a mental stage where distinctions of cause and effect are not clearly drawn, where a rigid distinction of the natural and the supernatural can scarcely be said to exist at all, he finds no difficulty in imagining an universe in which all things have power, after their kind, a power for good or a power for ill, a *mana,*

[18] *Introduction to the History of Religion,*[2] London, 1901, pp. 69 *sqq.*

to employ the familiar Melanesian term, capable of affecting whatever lies within its radius with its own mystic qualities.[14]

At the same time the fact must be recognized that the majority of taboos are now supported by animistic beliefs of a much more precise character. The penalty for the infraction of the taboo is generally death or some physical ailment believed to be inflicted by the offended spirits. Thus in Polynesia the *atuas* or ancestral spirits, particularly of chiefs, by entering the body of any impious person, caused disease or "intestinal embarrassment": the culprit forthwith swelled up and died. The same ghostly powers might visit entire tribes with an epidemic, or send down lightning and fire from heaven, or bring about the unsuccessful issue of a war.[15] At the other end of the scale might be mentioned the ancient Babylonians, who entertained very definite conceptions of taboo and conceptions equally definite of the evil spirits or demons which vexed the soul and body of one who had violated a *mamit*, or prohibition with a supernatural penalty. These considerations make it impossible for me to accept Mr. N. W. Thomas's suggestion that the term "taboo" be limited "to cases in which the punishment for violation is, so to speak, automatic; the direct result of the discharge of *mana*."[16] The idea of taboo is world wide and nothing is to be gained by employing it with too restricted an application.

Since persons, objects, and even actions are all liable to infection prudence dictates a variety of precautions: the dangerous object or individual is removed to a safe distance, or is carefully isolated, or is bound hand and foot by a series of insulating regulations. The entire community is interested in such pro-

[14] The notion of transmissibility has been especially developed though in different directions and to different ends by such writers as E. Crawley, *The Mystic Rose*, London, 1902, *passim*, Hubert and Mauss, "Esquisse d'une théorie générale de la magie," *L'année sociologique*, Paris, 1904, vii. 108 *sqq.*, F. B. Jevons, *op. cit.*, chap. vi., and R. R. Marett, *The Threshold of Religion*, London, 1909, pp. 115–41.

[15] J. S. Polack, *Manners and Customs of the New Zealanders*, London, 1840, i. 234.

[16] *Man*, 1905, v. 63.

ceedings, and on occasions may itself be placed under a rigid quarantine. When this happens a period of abstinence and quiescence is regarded as the surest means of avoiding dangers felt to threaten each and every member of the social group. Nor will the procedure greatly differ where distinctly animistic ideas prevail and when the impending danger is specifically attributed to the action of spiritual beings or deities. In the latter case, it is true, the idea of propitiation becomes increasingly prominent since it is often felt necessary to appease by various rites and ceremonies the supernatural powers responsible for the visitation. The two conceptions of abstinence and propitiation are not, indeed, always sharply distinguishable in concrete cases, and with advancing culture they tend to become more and more closely conjoined.

It is highly probable that the origin of some of these communal regulations is to be sought in the taboos observed by individuals at such great and critical seasons as birth, puberty, marriage and death. Comparative studies have indicated how numerous are the taboos which attach to these times of high solemnity and significance; and it seems reasonable to suppose that with the deepening sense of social solidarity, observances once confined to the individual alone, or to his immediate connections, would often pass over into rites performed by the community at large. Some evidence tending to substantiate this opinion will be presented incidentally as the investigation proceeds.

I. PERIODS OF ABSTINENCE AT CRITICAL EPOCHS

1. TABU DAYS AMONG THE HAWAIIAN ISLANDERS

Our knowledge of taboo in the Polynesian area rests largely on the vague and unsatisfactory accounts by the early missionaries who were unable to describe much more than its exterior aspects, its origin and inner significance having quite escaped their consideration. Fundamentally the system of taboos formed a religious institution, if religion be understood in its broadest

sense as a recognition of the supernatural. In Polynesian belief the violation of a taboo would be punished by the offended *atua* or spirit. Such a conception readily lent itself to priestcraft and statecraft and so became in the hands of the ruling classes, a mighty engine of social control. In Hawaii, where the superstitions in question reached their most elaborate and grotesque development, communal taboos could be imposed only by the priests, although this action was often taken at the instance of the civil authorities. Police officers were even appointed to make sure that all prohibitions were strictly observed. For every breach of the rules the death penalty was inflicted unless the delinquent had some very powerful friends who themselves were either priests or chiefs.[1]

The range of these Hawaiian taboos, as extended for reasons of state or religion, was very wide. Thus we are told that idols, temples, the persons and names of the king and his family, the persons of the priests, houses and clothes of the king and priests, were always *tabu*. Certain much prized articles of food besides almost everything offered in sacrifice were reserved by taboos for gods and men; and hence women, except in cases of particular indulgence, were restricted from using them. Sometimes an entire island or district was tabooed and no one was allowed to approach it.[2]

The institution of taboo also included various regulations requiring the special observance of certain times and seasons. These occurred, generally, on the approach of some important religious ceremony, immediately before going to war, and during the sickness of chiefs. Their duration was various, and apparently much longer in remote ages than in the period immediately preceding the arrival of the missionaries. In Hawaii, before the reign of Kamehameha II, forty days was the usual period. There were also periods of ten or five days, and sometimes of only one day. Tradition declares, however, that once a taboo was in force for thirty years during which time the men were

[1] Ellis, *op. cit.*, iv. 387 *sqq.*
[2] Ellis, *loc. cit.*

not allowed to trim their beards. Subsequently there was a tabooed period kept for five years. Elsewhere in the South Seas less extensive periods prevailed, the longest known being at Huahine, one of the Society Islands, where a season of abstinence is said to have lasted for ten or twelve years.[3]

The observance of such taboos varied according as they were common or strict. Whilst a common season prevailed, the men were required only to abstain from their usual duties and to attend at the *heiau* or temple where prayers were offered every morning and evening. At a period strictly tabooed the regulations were of a sterner character and in consequence a general gloom and silence pervaded the whole district or island. Every fire and light was extinguished; canoes were not launched;[4] no person bathed; no one was to be seen out of doors save those whose presence was required at the temple. Even the lower creation felt the rigor of the law: "no dog must bark, no pig must grunt, no cock must crow,—or the *tabu* would be broken, and fail to accomplish the object designed. On these occasions they tied up the mouths of the dogs and pigs, and put the fowls under a calabash, or fastened a piece of cloth over their eyes."[5]

[3] Ellis, *Narrative of a Tour through Hawaii or Owhyhee,* London, 1826, p. 366; *idem, Polynesian Researches,* iv. 387 *sq.;* J. J. Jarves, *History of the Hawaiian or Sandwich Islands,* Boston, 1843, p. 57.

[4] Death was the punishment for being found in a canoe on a tabooed day (H. T. Cheever, *Island World of the Pacific,* New York, 1856, p. 87).

[5] Ellis, *Narrative,* 366 *sq., idem, Polynesian Researches,* iv. 388. Almost precisely the same regulations characterized the Sabbath observances introduced by the Christian missionaries among their Polynesian adherents. The Hawaiians, in fact, called the Sabbath *la tabu* or "sacred day" (Ellis, *Narrative,* 368). No food was cooked on that day, it being all prepared on the previous Saturday, no fires were kindled, no canoes were paddled. The natives neither fished nor tilled the soil, and if on a journey, they stopped over the Sabbath (H. T. Cheever, *Life in the Sandwich Islands,* New York, 1856, p. 295; Hiram Bingham, *A Residence of Twenty-one Years in the Sandwich Islands,* Hartford, 1849, pp. 177 *sq.*). In Tahiti, also, the Sabbath rest was rigidly maintained. On that day no canoes were launched and no person was seen abroad except on the way to church or when returning from divine service. "The success of the missionaries in introducing this strict observance of a Sabbath is as-

From the fragmentary notices preserved in the older literature relating to Polynesia it thus becomes evident that the communal taboos occurred at critical or especially important seasons. The prohibitions were negative in character, required a period of abstinence sometimes verging upon complete quiescence, and were closely connected with the aristocratic and theocratic organization of Polynesian society. At the same time the communal regulations, artificially created, are to be assimilated to those which rested upon individuals alone and arose spontaneously as a result of various circumstances. Every account of aboriginal culture from Hawaii to New Zealand, contains numerous references to the network of taboos which invested private life. All persons dangerously ill were tabooed and were removed from their houses to an isolation in the bush. Mothers after childbirth were "unclean" and accordingly quarantined, likewise their newborn children. All persons who handled the body or bones of a dead person or assisted at his funeral were regarded as polluted and were subjected to a variety of purifying ordinances. The list might be extended almost indefinitely, but it suffices to point out that the individuals or objects placed under a ban were regarded as dangerous and defiling and hence as requiring protective measures imposed for the safety of the social group. If we assume, as I think we may, that the individual taboos represent the earlier phase of the institution, then the communal taboos may be regarded as merely an extension to the body politic of these simpler and more rudimentary ideas. The probability of this transition will be strengthened by a consideration of the tabooed days found among some existing primitive peoples.

2. LALI DAYS AMONG THE LAND DAYAKS OF BORNEO

The natives of Sarawak, British Borneo, have their days of abstinence, which among the Land Dayaks occur usually at rice

cribed by themselves in a great degree to its analogy to the taboo days of heathen times . . . ." (Charles Wilkes, *Narrative of the U. S. Exploring Expedition,* Philadelphia, 1845, ii. 13). See further, C. S. Stewart, *A Visit to the South Seas,* London, 1832, p. 302.

planting and harvesting; sometimes, also, at mid-harvest. The taboos observed among the Kayans of the Baram River district have been well described by a recent traveller whose picturesque narrative deserves an extended notice.[6] "During the days devoted to search for omens in reference to the sites of the rice-fields, and also again in reference to the planting, the Kayans refrain from their usual daily occupations, and neither leave their houses themselves nor allow strangers to enter. These days of seclusion are termed *permantong padi,* or *lali padi,* and correspond very closely to taboo elsewhere."[7]

The rude agricultural methods of the Dayaks start with the preliminary process of clearing off a site in the dense jungle. The work is extremely tedious, and if, after all the heavy labor, the crops should fail or be destroyed by monkeys, birds, or beetles, the entire household feel that some act has been committed whereby the displeasure of the spirits is aroused. Accordingly, before beginning so arduous a task it is essential to take omens from the actions of certain birds, mammals, and reptiles—the *amau,* who are supposed to be in the confidence of the spirits.[8] A patch of jungle having been tentatively selected,

[6] W. H. Furness, 3d, *Home Life of the Borneo Head Hunters,* Philadelphia, 1902, pp. 160–69. For earlier accounts see Spenser St. John, in *Transactions of the Ethnological Society,* 1863, n. s., ii. 243; *idem, Life in the Forests of the Far East,* London, 1862, i. 175 *sqq.;* Hose, in *Journal of the Anthropological Institute,* 1893, xxi. 170. For a very interesting description by a native Dayak see Leo Nyuak, in *Anthropos,* 1906, i. 176 *sqq.*

[7] *Permantong* is the term used by the Kayans of the Baram district; among the Kayans in the valley of the Kapuas River, Dutch Borneo, the word is *pantang.* Both these forms are possibly derived from the Malay *hantu,* a word meaning demon or evil spirit, with the prefix *per* and the affix *an.* The Malay word in full would thus be *per-hantu-an,* meaning "possessed by spirits" or "bewitched." *Lali* is probably a pure Kayan word with much the same significance (Furness, *op. cit.,* 160).

[8] On these omen animals see further, St. John, *Life in the Forests of the Far East,* i. 191 *sqq.;* Perham, in H. L. Roth, *Natives of Sarawak and British North Borneo,* London, 1896, i. 191–201; A. C. Haddon, *Head-Hunters,* London, 1901, pp. 384 *sqq.;* Hose and McDougall, "The Relations Between Men and Animals in Sarawak," *Journal of the Anthro-*

the work begins with the clearing off the dense undergrowth. During this preliminary stage, when the labor is less heavy than it will be later when trees must be felled, the household is not as yet under a taboo. Nevertheless every individual keeps a sharp eye for evil omens. Should a native on the way to the clearing see any one of four ominous animals, a certain species of snake, a deer, a civet cat or a rain-bird, the site will be at once abandoned regardless of the work already done there. Wilfully to disregard such warning "not only compromises the abundance and quality of the crops, but also the health, or even the life, of the whole household."[9]

If no evil omens are observed for three days the Kayan workers feel sufficiently encouraged to proceed to the next stage of felling the heavy timber on the site which has now been cleared of its underbrush. Then ensues an elaborate series of auguries. Whilst the various families making up the household of a communal dwelling remain secluded in the long veranda, or in their small private rooms, sitting all day long, quite still, smoking and talking, two hawk-men are off in the forest looking for a hawk called *niho*. Three days must be devoted to this search: if the hawk be seen on the first day, but not on the two days following, the omen is unfavorable. The people will continue the preparation of the soil, but they expect poor crops, a result pretty certain to follow their half-hearted and discouraged labors. On the second day the search is continued, and if the hawk be seen, the omen is favorable but not completely so. If the third day's search again reveals a hawk, the two men return at once to the house and spread the good news. Every one now lights a cigarette or waves a fire-brand whereby a blessing is invoked on

pological Institute, 1901, xxxi. 175 *sqq.* The cult of omen animals is very widely diffused in Sarawak. Archdeacon Perham, who knew the natives well, declares that the ominous birds are thought to be possessed with the spirits of certain invisible beings in the upper world whose names they bear and as whose deputies they serve (*op. cit.*, 200). *Cf.* also Hose and McDougall, *op. cit.*, 206, 212; Nyuak in *Anthropos*, 1906, i. 176 *sq.*, 408 *sqq.*

[9] Furness, *op. cit.*, 161.

his or her particular rice-field. All eyes eagerly watch the actions of the hawk. "Should he sail away out of sight without once flapping his wings all are delighted; it means that the clearing of the jungle may now continue prosperously, and that neither attack of enemies nor accident to the workers need be feared. Should the hawk flap his wings, it follows that some men, in felling the jungle, will be badly cut by their axes or perhaps crushed under falling trees. All instantly avert their eyes from the flapping hawk, lest the bird should recognize them in the fields and select them as victims."[10]

There now occurs a brief respite from the *permantong* or *lali*, and the people may leave their houses. But the same formalities must be observed by the inhabitants whilst search is made for four other ominous animals. In each case there is a three-day period of seclusion and abstinence. These are all the omens that must be consulted before the heavy timber can be felled, the ground burned over, and the rice planted.

The foregoing illustrations have exhibited the elaborate series of taboos which affect the inmates of a communal house or village, before the crop is started. Other regulations concern outsiders. From the hour when the real labor of felling the jungle begins, until the seed-planting is completed, no stranger may enter the house or field. Should a neighbor, by accident or necessity, come within the *lali* district he must atone for the trespass by making a small payment. This is called the *usut* and consists, ordinarily, of a few beads or an iron implement. It is placed in a basket and hung up in the rice-field till it rusts away or disappears. The women have as their special duty to see that the *usut* is paid.

But the *lali* ordinances of the Kayans are not confined to the time of seed-planting. Once more, when the crop is all harvested, the house is closed to strangers. For eight days no one may go away on an expedition or return to the village from abroad. Another season of restriction follows during the period when the rice is being stored in the granaries. "But as soon as

[10] Furness, *op. cit.*, 162 *sq.*

this harvesting is over, a general feast is prepared, and merriment of all sorts makes up for the weariness of the long day's work. The women don every stitch of their finery and every bead to their name; some even assume men's clothes, and carry shield, spear, and *parang*. In the evening, all join in a long procession round the house; guests are invited to participate in the festivities, and 'jest and youthful jollity' rule the hour; the brimming cup passes freely, and to the harmonious strains of the *kaluri* the women 'trip it as they go' or leap in war-dances in imitation of the men."[11]

The *lali* observances of the Kayans and other Dayaks are significant as showing how for a Borneo community the whole period of farming, from the initial task of selecting a site to the final storing of the rice in the granaries, is subject to supernatural influence. Planting and harvesting in particular, are critical times when every precaution must be taken to secure the approval, to thwart the ill-will, of the spirits which invest the tribal life. All the taboos are restrictive in character: the inhabitants "remain in their houses to eat, drink, and sleep, but their eating must be moderate and often the meal consists of nothing but rice and salt. . . . The people under the interdict must not bathe, touch fire, or busy themselves with their ordinary occupations."[12]

In the course of an excellent study of the Borneo festivals,[13] Mrs. Scott concludes that they are far more effective when accompanied by the various taboos. The change of occupations heightens the sacredness of the feast and also gives leisure to the inhabitants of the village to join in the long elaborate ritual.

[11] *Idem*, 164 *sq.*

[12] Spenser St. John, *Life in the Forests of the Far East*, i. 175 *sq.* Mr. Hose declares that at such times the inhabitants of a communal house may taboo their private rooms to the other inmates. Small fines are imposed for infringing the taboos, if the act be unintentional, but when a man forces his way into a tabooed house, a serious quarrel, ending in bloodshed may result (*Journal of the Anthropological Institute*, 1893, xxi. 170).

[13] (Mrs.) S. B. Scott, "Harvest Festivals of the Land Dyaks," *Journal of the American Oriental Society*, 1908, xxix. 236–80.

At the same time the closed house provides freedom from intrusion and secures the presence of every member of the tribe. Furthermore it may be noticed how the prospect of feasting, drinking and general excitement furnishes an added zest to the labors of the workers. The mid-harvest festival, when this is celebrated, affords a much needed rest in the heavy labor of harvesting; and the last and greatest of the festivals comes as a natural period of relaxation after the long strain of toil and frugality is suddenly released.[14]

That in actual practice the Borneo observances have this outcome it is impossible to deny. Yet it must be noticed that very similar regulations are in force on many other and quite different occasions. Thus we are told that a particular species of taboo called *pamali peniakit* is imposed on the inhabitants of a village when a general sickness prevails. It is marked by the slaying of a pig and a feast made in order to propitiate the divinity which has sent the malady amongst them. In its severest form the taboo lasts for eight days, "and during this period everything in the village is at a standstill, the inhabitants shutting themselves up from all intercourse with strangers."[15] A death in a

[14] *Idem*, 244 *sqq.*

[15] (Sir) Hugh Low, *Sarâwak*, London, 1848, p. 260. *Cf.* Nyuak, in *Anthropos*, 1906, i. 416 *sq.* In the island of Nias, when an epidemic breaks out a quarantine is established in each village, not only against the inhabitants of the infected village, but against all strangers; no person from outside is allowed to enter (Frazer, *The Golden Bough*,[2] London, 1900, iii. 64). The inhabitants of the Poggi or Pageh Islands, two islands of the Mentawei group, which lies off the western coast of Sumatra, have "a very remarkable and strange custom to which they are strongly attached and which they observe faithfully under all circumstances. It consists in this, that on certain occasions they are bound to remain in their village and may not quit it for any cause whatever; further they will allow no stranger to enter the village, much less their dwellings; they may neither give nor receive anything; they must abstain from certain foods, and may not trade" (*idem, Totemism and Exogamy*, London, 1910, ii. 214 *sq.*). The Dutch authorities cited by Prof. Frazer do not indicate on what occasions these communal interdicts are enforced. A season of abstinence known as *hiang* has been discovered among the natives of Formosa (Joest, in *Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte*, 1882, p. 62).

Land Dayak village has the effect of tabooing it, usually for a single day (*infra*). When a village is under construction, weaving the native cloth, settling quarrels, and going on the warpath are forbidden; to break these regulations would cause a death in the village.[16] On the occasion of certain solemn performances of the medicine-man a three-days' taboo is declared and the people rest from work.[17] Such evidence indicates that the seasons of restriction and abstinence marking the agricultural operations of the Borneo head-hunters are not to be explained solely on utilitarian grounds.[18]

3. GENNA DAYS IN ASSAM

Taboos remarkably similar to those of the Land Dayaks are found among the various Tibeto-Burman tribes inhabiting the hills of Assam.[19] These peoples are not truly primitive: even the least advanced use iron implements and weave cloths. Some have both permanent villages and agricultural fields, some move both their villages and their fields every three or four years, others still are permanent so far as their village sites are con-

[16] Nyuak, *op. cit.*, 181.

[17] *Idem*, 412.

[18] In the cultivation of their paddy crop the Kandyans of Ceylon observe a variety of ceremonies, some of them strikingly like the Dayak rites. Thus the peasant, having selected a suitable site for farming first presents himself to the village astrologer who names an auspicious day on which to begin operations. Should the *goiya*, on the way to his land at the time fixed, encounter any sights or sounds which portend failure — the hoot of an owl, a house-lizard's cry, the growling of a dog, the sight of persons carrying weapons capable of inflicting wounds — he will immediately turn back and again approach the diviner to determine a lucky day (Kehelpannala, in *Journal of the Anthropological Institute*, 1896, xxv. 104 *sq.*).

[19] T. C. Hodson, "The *Genna* amongst the Tribes of Assam," *Journal of the Anthropological Institute*, 1906, xxxvi. 92–103. See also *idem*, "Some Nāga Customs and Superstitions," *Folk-Lore*, 1910, xxi. 296–312. For almost identical observances among the tribes of Northern Arakan, British Burma, *cf.* R. F. St. Andrew St. John, in *Journal of the Anthropological Institute*, 1873, ii. 240.

cerned, but shift their cultivation year by year. In the latter case the natives preserve a memory of the time when they moved their fields by chance "in a ceremony intended to determine by magical rites the proper site for the new cultivation."[20] The Assamese would therefore represent an agricultural stage somewhat higher than that just studied among the Dayaks of Borneo.

The communal taboos, *i. e.*, such as are observed by an entire village, are either those of regular occurrence or those which follow necessarily after some event has happened. The regular taboos, for the most part, are connected with the crops. Before sowing, the village is *tabu* or *genna*.[21] Gates are closed and neither egress nor ingress allowed. In some villages the *gennas* last for ten days. During this time the men cook and eat apart from the women and various food restrictions are strictly enforced. The end of the festival is marked in some tribes by an outburst of licentiousness, for afterwards, when the crops are planted and so long as they remain ungarnered, the slightest incontinence might prove ruinous. Between the conclusion of this initial crop *genna* and the commencement of the *genna* ushering in the harvest, some tribes interpose a third *genna* which depends on the appearance of the first blade of rice.[22] In addition, during the entire season until the harvest time there are various restrictions communally observed. All fishing, hunting, cutting grass, and felling trees are forbidden. The tribes which specialize in cloth-weaving, salt-making, or the manufacture of pottery may not engage in such occupations. Drums and bugles are silent throughout the period. If a man should beat a drum or blow a bugle when the crops were in the ground or unharvested, not only would his own crops fail but those of the

[20] Hodson, in *Journal of the Anthropological Institute*, 1906, xxxvi. 92.

[21] The term *genna* is also applied to the festival or assemblage of communal rites by which all events possessing social importance are celebrated (Davis, in *Assam Census Report*, 1891, i. 249).

[22] In Northern Arakan a season of restriction is imposed when the rice plant is up and requires weeding. At this time all intercourse with the village is forbidden for seven days (R. F. St. Andrew St. John, *loc. cit.*).

entire village would suffer, if not then, at any rate in the near future.[23]

Mr. Hodson suggests that the idea underlying the various restrictions is that men must not give time and attention to anything but the care of the crops. He points out, further, that at such a period, the thatching grass and timber are too raw for use in housebuilding. The practical effect of the taboo against hunting, moreover, is to provide a much needed closed season for the game. These appear, however, to be merely incidental results and not the primary or original purpose of the regulations. It is to be observed that similar taboos, imposing a similar period of abstinence, mark a rain-compelling ceremony when the headman works magic for the benefit of the entire community. General *gennas* are also proclaimed after the occurrence of unusual phenomena such as earthquakes[24] and eclipses, the accidental death of a villager, or the breaking out of a contagious disease. If it is known that an epidemic sickness is about, a *genna* is proclaimed and the headman makes a propitiatory sacrifice of some animal. The destruction of a village by fire occasions a general *genna,* because such an event shows the people that spirits inimical to the village are about and active.[25] It

[23] "The strength of the *genna* system among the Nāgas lies . . . in the indirectness and uncertainty of its sanctions. A violation of a *tabu* on hunting during the cultivating season would, — specifically, — bring about a shortage of rice, but any subsequent misfortune would be attributed to it. If all may suffer for the default of one, it becomes the business of each to see that his neighbor keeps the law" (Hodson, in *Folk-Lore,* 1910, xxi. 307).

[24] Among the Nandi, a people of British East Africa, there is a prohibition of work for a whole day following an earthquake, a phenomenon which Nandi speculation, in common with other savage philosophies, attributes to the movement of underground spirits. If a hailstorm occurs, if a hoe breaks. or a beast of prey seizes a goat, no work must be done in the fields for the rest of the day and for twenty-four hours afterwards, as it is believed that any sick person who eats the grain when harvested, or who drinks beer made from the grain will die and that pregnant women will abort (A. C. Hollis, *The Nandi,* Oxford, 1909, pp. 20, 100).

[25] In Northern Arakan a *ya* or taboo is declared when an epidemic breaks out and all intercourse with the infected village is forbidden until the

would seem, therefore, that the negative regulations or taboos have here in Assam much the same purpose as in other regions: they are protective, and conciliatory, to a certain extent they are even compelling, in so far as the observance of the taboos is thought to prevent the spirits from working further damage. "I see in these *genna* customs," writes Mr. Hodson, "the foundation of all communal life, for the primary lesson they teach, whether directly or indirectly, is that harm to one is harm to all, and that the strength of all is greater than the strength of one."[26]

Besides the communal regulations the natives of Assam are subject to many others which affect individuals alone. There are *gennas* at childbirth, name-giving, ear-piercing, hair-cutting, and marriage.[27] As Mr. Hodson points out, such taboos are intended

disease has disappeared. Similar periods of restriction, lasting three days, are declared when a village is burnt or a new one erected. An individual breaking such a regulation is fined by the local headman. The fact that a village is tabooed is indicated to the traveller by suspending strings or canes across the road (R. F. St. Andrew St. John, *loc. cit.*).

[26] *Idem*, in *Journal of the Anthropological Institute*, 1906, xxxvi. 103. It may be noted that in Southern India the village rites of sacrifice are frequently held when cholera or smallpox is raging, and that they are analogous to some of the *genna* customs. "I have dignified," writes the Bishop of Madras, "the periodical sacrifices to the village goddesses by the name of festivals. But the term is a misnomer. There is really nothing of a festal character about them. They are only gloomy and weird rites for the propitiation of angry deities or the driving away of evil spirits, and it is very difficult to detect any traces of a spirit of thankfulness or praise. Even the term worship is hardly correct. The object of all the various rites and ceremonies is not to worship the deity in any true sense of the word, but simply to propitiate it and avert its wrath" ("The Village Deities of Southern India," Madras Government Museum, *Bulletin*, 1907, v. 128 *sq.*).

[27] According to Mr. Furness the Nagas of Eastern Assam strictly taboo a house where tattooing is being done. When a man or woman is sick, a taboo is declared and likewise when any domestic animal is giving birth to young. Even the hatching of a brood of chickens bans the house for from two to ten days. These taboos are indicated by placing bunches of leaves on the door-post and by tying across the doorway one of the long pestles used for pounding husks of rice (*Journal of the Anthropological Institute*, 1902, xxxii. 466).

"to afford protection against harm from spirits who at those moments are specially active."[28] An older writer who has commented on these practices among the Angami Nagas remarks that there is "no end to the reasons on which a *kennie* must or may be declared, and as it consists of a general holiday when no work is done this Angami sabbath appears to be rather a popular institution."[29]

In the three communities which have been selected as representative it thus appears that there are certain occasions when the normal current of life is interrupted and when what may well be called a crisis presents itself. In general, any time of special significance, any period of storm or stress, any epoch when untoward events have occurred or are expected to occur, may be marked by taboos designed to meet the emergency in the communal life and to ward off the threatened danger or disaster. Taboos are imposed in connection with such unusual and therefore critical events as a conflagration, an epidemic sickness, or an earthquake; or at the time of such important undertakings as the commencement of a war, seed-planting and harvest, or the celebration of a solemn religious or magical ceremony. But the notion of crisis has a far wider extension and, as I hope to show, will be found capable of a general application to the phenomena discussed in the following chapters.[30]

II. PERIODS OF ABSTINENCE AFTER A DEATH AND ON RELATED OCCASIONS

4. THE PRIMITIVE ATTITUDE TOWARDS DEATH

Among the lower races perhaps the commonest occasion for the suspension of ordinary occupations is after a death. The

[28] Hodson, in *Journal of the Anthropological Institute*, 1906, xxxvi. 102.
[29] Brown, in *Journal of the Asiatic Society of Bengal*, 1875, xliv. i. 316.
[30] On the sociological conception of crisis see W. I. Thomas, *Source Book for Social Origins*, Chicago, 1909, pp. 16 *sqq.*; R. R. Marett, *The Birth of Humility*, Oxford, 1910, pp. 28 *sqq.* (an inaugural lecture by the Reader in Social Anthropology).

prohibition of work at this time often forms only one of a number of regulations which impose partial or complete abstinence from food (*infra*) and also place a ban on such things as loud talking, uproarious mirth and music, the wearing of ornaments and gay clothing. All the taboos may be confined to the family or at most, to the relatives of the deceased. In other cases they concern the entire community. As Professor Westermarck has suggested[1] the reason for the rule against work may sometimes be that inactivity is a natural accompaniment of sorrow or the mourner may be in a delicate condition requiring rest. Possibly, in some instances the idea is simply that of honoring the dead—an idea which still finds expression in our practice of intermitting labor and business operations on the occasion of public funerals. Some of the illustrations to be cited exhibit clearly animistic conceptions. The soul of the dead man is thought to remain for a time with the body, or in the grave, or near the scenes of the earthly life. Until the funeral ceremonies are completed, when the ghost is finally "laid" or departs for the abode of the dead, it is advisable for the survivors to avoid all conspicuous activity. In such instances we may perhaps see simply a precaution taken against the dead man's ghost. A similar period of quiescence is frequently considered necessary when the death is attributed to an evil spirit which hangs about its quarry and is likely not to be satisfied with one victim alone.[2]

But earlier, probably, in development, and certainly far more general, is the belief in the pollution of death.[3] Primitive peoples seldom recognize a death as due to natural causes. Sickness, and death following on sickness, when not attributed to the direct action of an evil spirit or of some malevolent person who has been practicing nefarious magic, are thought to be due to the contaminating miasma of death. Death is a mysterious atmos-

[1] *Origin and Development of the Moral Ideas,* London, 1908, ii. 283.

[2] For a useful collection of ethnographic evidence see E. Samter, *Geburt, Hochzeit und Tod,* Leipzig, 1911.

[3] Crawley, *op. cit.,* 95 *sqq.;* J. G. Frazer, *Adonis, Attis, Osiris,*[3] London, 1907, pp. 407 *sqq.;* L. R. Farnell, *Evolution of Religion,* London, 1905, pp. 96 *sqq.;* Jevons, *op. cit.,* 66, 76.

pherical poison which extends its defiling influence far and wide. Hence we have at least one motive for the very common practice of destroying the house and personal property of the deceased.[4] Hence arise the taboos of the corpse, of persons who have anything to do with the corpse, of the relatives of the deceased, and of the mourners generally. An obvious application of these ideas requires that all activity should be abandoned by the survivors for a period following a death; and where the social consciousness is strong, the notion of abstinence at so critical a season may be extended to the entire community.

5. TABOOED DAYS FOLLOWING A DEATH

The illustrations of these death taboos are so numerous and are found so widely among primitive peoples that it is permissible to disregard the confines of special geographical or cultural areas and make a general survey of the phenomena.

In Samoa the death of a chief of high rank was an occasion for suspending all work in the settlement.[5] The Sea Dayaks of Borneo taboo their village after a death, remaining at home and abstaining from outdoor occupations, for seven days in the case of a male, three days for a female, and one for an infant. This *ulit* is confined to the relatives of the deceased and does not affect the community at large. During the *ulit* music and jollity are forbidden, ornaments and bright dresses laid aside, and deep mourning assumed.[6] Among the Land Dayaks the death of a man tabooed the entire village for a day.[7] In Timor, when a

[4] See further my article, "The Influence of Superstition on the Evolution of Property Rights," *Publications of the American Sociological Society*, 1909, iv. 159 *sq.*

[5] George Turner, *Nineteen Years in Polynesia*, London, 1861, p. 229; *idem, Samoa*, London, 1884, p. 146.

[6] H. L. Roth, in *Journal of the Anthropological Institute*, 1892, xxj. 122. *Cf.* Nyuak, in *Anthropos*, 1906, i. 413: "On a death occurring in the village it is tabooed to work on the farm; at busy times, for three days; at other times, for seven days."

[7] Spenser St. John, in *Transactions of the Ethnological Society*, 1863, n. s., ii. 236; *idem, Life in the Forests of the Far East*, London, 1863, i. 163.

king dies, no work is done for seven days thereafter.[8] On the island of Yam, one of the Carolines, the critical occasions when communal taboos, lasting up to six months, are declared include a time of drought, famine, or sickness, and the death of a chief or famous man. "In short, any great public event is thus celebrated, and, in fact, there is always a *tabu* in full swing somewhere or other, to the great disgust of the traders, who only see in these enforced holidays an excuse for idling, drunkenness and debauchery."[9] Among the Roro-speaking tribes of British New Guinea an entire village will mourn for a chief or influential man "by abstaining from fishing, hunting, and pot-making, and by reducing garden-work to a minimum." The period of mourning lasts from six to ten days.[10] The Tenguians of Northern Luzon observe a tabooed period following a funeral until the soul of the dead man takes its departure for its final home and can no longer influence the living.[11] The inhabitants of Kar Nicobar abstain from work as a sign of mourning.[12]

In Northern Arakan, British Burma, when any villager is killed by an animal, or when any woman resident in the village dies in childbirth, or when the body of a person who died in such a manner is brought into the village, all intercourse with that village is cut off until the appearance of the next new moon.[13] Amongst the hill tribes of Assam, death, whatever its mode, "puts the tribal nerves on the stretch, and affects the communal life, as is proved by the correlated variations of the *gennas* or

[8] Forbes, in *Journal of the Anthropological Institute,* 1884, xiii. 420.

[9] F. W. Christian, *The Caroline Islands,* London, 1899, p. 290. See further an interesting description of the taboos enveloping the fishermen of Yap, one of the Carolines (W. H. Furness, 3rd, *Island of Stone Money,* Philadelphia, 1910, pp. 38 *sq.*).

[10] C. G. Seligmann, *Melanesians of British New Guinea,* Cambridge, 1910, p. 275.

[11] Cole, in *American Anthropologist,* 1909, n. s., xi. 337. In this instance abstinence from labor is not specifically stated to be one of the taboos observed.

[12] C. B. Kloss, *In the Andamans and Nicobars,* London, 1903, p. 305.

[13] R. F. St. Andrew St. John, in *Journal of the Anthropological Institute,* 1873, ii. 240.

communal *tabus*."[14] We find general or communal *gennas* occasioned by the death of a man from wounds inflicted by an enemy or by a wild animal, by the death of a man from snake bite or from cholera or smallpox, or by the death of a woman in childbirth.[15] Besides these taboos following an accidental or unusual death, there is the further custom when a death occurs in a family, of tabooing the house generally for five days, during which time no one but the inmates may go in or out. There are even individual or family *gennas* occasioned by the death of animals within the house. As a rule the taboos continue for one day only.[16]

Very similar customs may be observed within the African area. The Kafirs of South Africa allow no one to work in the fields on the day after a death.[17] The Basuto abstain from all public work on the day when an influential person dies.[18] Among the Nandi of British East Africa a death furnishes one of the occasions when all agricultural work is temporarily suspended. If the owner of a plantation dies whilst his crops are ripening all the grain must be eaten and none reserved for sowing, for otherwise the grain would rot in the ground.[19] Amongst the Akikúyu of the same part of Africa where all the taboos connected with the corpse are very prominent, the day after a death has occurred is regarded as an unlucky day. "People will not travel, and goats and sheep will not bear, and all the inhabitants of the village shave their heads. The women will not go out for four days. On the

[14] Hodson, in *Transactions of the Third International Congress for the History of Religions*, Oxford, 1909, i. 58.

[15] *Idem*, in *Journal of the Anthropological Institute*, 1906, xxxvi. 96. "We find among the Nāga tribes that, if a woman died in childbirth (an event of rare occurrence), the child was never allowed to live, because they believed it to be an evil spirit, a disembodied ghost, incarnated in the mother whose death it had caused" (*idem*, in *Folk-Lore*, 1910, xxi. 301).

[16] Brown, in *Journal of the Asiatic Society of Bengal*, 1875, xliv. i. 316; Woodthorpe, in *Journal of the Anthropological Institute*, 1882, xi. 71; Hodson, *ibid.*, 1906, xxxvi. 97.

[17] Dudley Kidd, *The Essential Kafir*, London, 1904, p. 253.

[18] E. Casalis, *Les Bassoutos*, Paris, 1859, p. 275.

[19] Hollis, *The Nandi*, p. 20.

next day the sons who have taken part in the burial do not work."[20] Among the Arabs of Morocco studied by Professor Westermarck, there is a prohibition of all work in the village until the funeral has taken place.[21]

In the New World, the funeral ceremonies of the kings of Mechoacan "lasted five days, and in all that time no Fire was permitted to be kindled in the City, except in the King's house and Temples, nor yet any Corn was ground, or Market kept, nor durst any go out of their houses."[22] Among the Seminoles of Florida on the day of a funeral and for three days thereafter, the relatives of the deceased remained at home and abstained from work. During this time the dead man was supposed to remain in his grave. Subsequently he took his departure for an abode in the skies and mourning then ceased.[23]

The taboos following a death appear to be especially prominent among the Eskimo tribes within the Arctic circle. In Greenland we meet the practice of requiring the household of the deceased to abstain from certain kinds of work for some time after death.[24] Among the Eskimo of Baffin Land and Hudson Strait, after the death of any person it is forbidden "to scrape the frost from the window, to shake the beds or to disturb the shrubs under the bed, to remove oil-drippings from under the lamp, to scrape hair from skins, to cut snow for the purpose of melting it, to work on iron, wood, stone or ivory. Furthermore, women are forbidden to comb their hair, to wash their faces, and to dry their boots and stockings."[25] Among the Central Eskimo, Dr. Boas notes how in the winter a long space of bad weather occasions privation since hunters cannot leave their huts. "If

[20] W. S. and Katherine Routledge, *With a Prehistoric People,* London, 1910, p. 172.

[21] *Origin and Development of the Moral Ideas,* ii. 283.

[22] Thomas Gage, *New Survey of the West Indies,* London, 1677, p. 160; cited by Jevons, *Introduction to the History of Religion,*[2] 65.

[23] Maccauley, in *Fifth Annual Report of the Bureau of Ethnology,* 521.

[24] Hans Egede, *Description of Greenland,* London, 1845, p. 150.

[25] Boas, in *Bulletin of the American Museum of Natural History,* 1901, xv. 121 *sq.*

by chance some one should happen to die during this time, famine is inevitable, for a strict law forbids the performance of any kind of work during the days of mourning."[26] According to one account the Innuit, from the head of Bristol Bay to the Arctic, require the survivors to refrain from work for twenty days after a death in the family.[27] This is probably too broad a statement which does not allow for minor divergencies of custom throughout so extensive an area. On the lower Kuskokwim River the Alaskan villagers abstain from work on the day of a death, and in many instances, on the day following such an event. None of the relatives of the deceased may perform any labor during the period, four or five days in length, when the shade is believed to remain with the body.[28] The rule requiring no work in a village on the day when a person dies prevails generally among the Bering Strait Eskimo. Relatives of the deceased must abstain from activity during the three following days.[29] One observer tells of a Point Barrow woman who declined to sew on clothing, even at his house, because there was a dead man in the village who had not yet been carried to the cemetery. She feared "he would see her." But after consultation with her husband she concluded that it was possible to protect herself from "him" by tracing with a snow knife a circle about herself on the floor. Within this area she did the sewing required, being very careful to keep all her work inside it.[30]

Remarkably similar customs prevail among some of the Asiatic Eskimo and incidentally reinforce the argument for the transmission of cultural elements between northwestern America and northeastern Asia. The Reindeer Chukchee forbid any kind of woman's work with needle and scraper during the period of the funeral ceremonies. This rule refers to all the houses of the

[26] *Sixth Annual Report of the Bureau of Ethnology*, 427. *Cf.*, also, 614.
[27] H. W. Elliott, *Our Arctic Province*, New York, 1887, p. 389.
[28] Nelson, in *Eighteenth Annual Report of the Bureau of American Ethnology*, 319.
[29] Nelson, *op. cit.*, 312.
[30] Murdock, in *Ninth Annual Report of the Bureau of Ethnology*, 424.

camp or village, and even to other settlements in the vicinity.[31] The Koryak stopped all work in the settlement before the last rites to the dead. No one went hunting or sealing, no one went to fetch wood, even the women did no sewing. At the present time this rule is so far abrogated as to apply only to those in the house where the body lies.[32] Among the Yakuts when a man dies the members of his household may not execute any work until after the next full moon.[33]

6. TABOOS OBSERVED DURING FEASTS OF THE DEAD AND AT EXPULSION OF GHOSTS

Feasts of the dead, the primitive All Souls' days, sometimes furnish occasions for abstinence from work. The same practice is met at periods devoted to the banning of the ghosts of the recently deceased, and of evil spirits generally, from the community.[34] Here, as elsewhere, we may well raise the query whether such proceedings have always existed with the particular meaning now assigned to them or whether in many instances they may not hark back to a "pre-animistic" period when the evil influences, instead of being personified under the form of spirits, were more vaguely regarded as some mysterious and infectious contamination.

The descriptions of primitive rites by early observers, though frequently the only accounts which we possess, are often obscure and unsatisfactory. These remarks apply to an annual ceremony which some Fijian tribes were wont to perform, possibly as an expulsion of evil spirits or ghosts. "The time of its celebration was determined by the appearance of a certain fish or sea-slug which swarms out in dense shoals from the coral reefs on a

[31] Bogoras, in *Memoirs of the American Museum of Natural History*, xi. 521.

[32] Jochelson, *ibid.*, x. 104 *sq.*

[33] Sumner, "The Yakuts," abridged from the Russian of Sieroshevski, *Journal of the Anthropological Institute*, 1901, xxxi. 107.

[34] On All Souls' days, see Frazer, *Adonis, Attis, Osiris*,[2] 301–18. On the expulsion of evils, *idem*, *The Golden Bough*,[2] London, 1900, iii. 39–93.

single day of the year, usually in the last quarter of the moon in November. The appearance of the sea-slugs was the signal for a general feast at those places where they were taken. An influential man ascended the tree and prayed to the spirit of the sky for good crops, fair winds, and so on. Thereupon a tremendous clatter, with drumming and shouting, was raised by all the people in their houses for about half an hour. This was followed by a dead quiet for four days, during which the people feasted on the sea-slug. All this time no work of any kind might be done, not even a leaf plucked or the offal removed from the houses. If a noise was made in any house, as by a child crying, a forfeit was at once exacted by the chief. At daylight on the expiry of the fourth night the whole town was in an uproar; men and boys scampered about, knocking with clubs and sticks at the doors of the houses and crying *Sinariba*. This concluded the ceremony."[85]

From that treasury of archaic custom, *The Golden Bough,* I take another illustration of a day of abstinence observed by the people of Bali, an island to the east of Java. Generally the period chosen for the expulsion of evil spirits is the day of the "dark" moon in the ninth month. At the appointed time the inhabitants of a village or district gather at the principal temple and after prayers have been recited by the priests, the blast of a horn summons the devils to partake of a meal which has been prepared for them. The people who have stayed at home unite by a deafening knocking on doors and beams, to hasten the departure of the demons from the houses. The fiends then flee to the banquet which has been set out for them; but here the priest receives them with curses which finally drive the spirits from the district. "When the last devil has taken his departure, the uproar is succeeded by a dead silence, which lasts during the

[85] Frazer, *The Golden Bough,*[2] iii. 81 *sq.*; citing *U. S. Exploring Expedition, Ethnography and Philology* by H. Hale, pp. 67 *sq.*; Ch. Wilkes, *Narrative of the U. S. Exploring Expedition,* iii. 90 *sq.* On the *Palola viridis* or sea-slug, *cf.* Turner, *Samoa,* p. 206; George Brown, *Melanesians and Polynesians,* London, 1910, pp. 135 *sq.*

next day also. The devils, it is thought, are anxious to return to their old homes, and in order to make them think that Bali is not Bali but some desert island, no one may stir from his own abode for twenty-four hours. Even ordinary household work, including cooking, is discontinued. Only the watchmen may show themselves in the streets. Wreaths of thorns and leaves are hung at all entrances to warn strangers from entering. Not till the third day is this state of siege raised, and even then it is forbidden to work at the rice-fields or to buy and sell in the market. Most people still stay at home, striving to while away the time with cards and dice."[36]

Ceremonies of ghost-riddance attended by seasons of abstinence are found in other parts of the savage world. The inhabitants of Kar Nicobar, an island to the northwest of Sumatra, have an annual festival called *kī-alah*. For an entire month previous to its celebration silence is observed throughout the island, no fires or lights are allowed, no cheroots smoked. At the conclusion of this period comes the grand feast to feed the evil spirits and send them back to their respective abodes in the jungle. It is a native belief that such spirits or "devils" visit the villages at this season of the year.[37] Among the many *gennas* or festivals accompanied by taboos, which are observed in Assam, is one devoted to the praiseworthy object of finally laying to rest the ghosts of all who have died during the year. This period of propitiation takes place in the cold weather after the crops have

[36] Frazer, *The Golden Bough*,[2] iii. 80 *sq.*; citing R. van Eck, in *Tijdschrift voor Nederlandsch-Indië*, 1879, n. s., viii. 58 *sqq.* According to another writer referred to by Prof. Frazer, the ceremony must always be performed at the new moon. It seems likely that this time or that of the "dark" moon was chosen as being an occasion when spirits are particularly active, perhaps by association of ideas, since the moon during the period of her invisibility is commonly supposed to visit the underworld (*infra*). The period of quiescence is clearly a means of avoiding contact with the ghostly powers. The reason given for abstaining from activity—to make the spirits think "that Bali is not Bali"—may be taken as an attempt to explain a custom no longer understood.

[37] Solomon, in *Journal of the Anthropological Institute*, 1902, xxxii. 216.

been reaped.[38] In west Africa some of the Gold Coast tribes hold a festival towards the end of August, called *affirah-bi,* when there is a general remembrance of the dead. It forms a tabooed period lasting for eight days during which time no work may be performed.[39]

Among the Yoruba tribes of the Slave Coast every June there is an All Souls' festival lasting seven days. It resembles the *affirah-bi* rites but the ceremony is held in honor of *Egungun,* who is supposed to have risen from the dead and after whom a powerful secret society has been named. I have elsewhere pointed out that in west Africa, as in some other parts of the world, the secret societies are closely associated with the cult of the dead.[40] This fact makes it possible to suggest that the tabooed days which occur when these organizations hold their public ceremonies may have once been connected with feasts of the dead or expulsion of ghosts. Such an hypothesis might help to explain the very rigorous prohibitions in force when the secret societies visit the towns, although the taboos seem now imposed chiefly to secure the respectful attention of the inhabitants. In Old Kalabar when the great *Egbo* society visits a community all business is suspended, all doors are shut, and silence prevails. On the departure of *Egbo* the town bell is rung in a peculiar way to indicate that normal occupations may be now resumed. The cessation of business on these *Egbo* visits may last a day, frequently two or three days. In the latter case, however, the *Egbo* rules are relaxed for an hour or two to permit the holding of the daily market.[41]

[38] Hodson, in *Journal of the Anthropological Institute,* 1906, xxxvi. 96. According to another account the festival occurs on the night of the new moon in December. The shades of those who have died during the preceding year are believed to revisit the living at this time (Peal, in *Zeitschrift für Ethnologie,* 1898, xxx. 355).

[39] A. B. Ellis, *Tshi-Speaking Peoples,* London, 1887, pp. *227 sq.*

[40] *Primitive Secret Societies,* New York, 1908, pp. 104 *sq.*

[41] Walker, in *Journal of the Anthropological Institute,* 1877, vi. 121 *sq. Cf.* R. E. Dennett, *Nigerian Studies,* London, 1910, pp. 41 *sq.* (*Oro* confinements among the Egbas).

At the other end of the scale, the classical peoples observed an annual expulsion of ghosts accompanied by the imposition of various taboos. The ancient Greeks, as we know on Plato's authority, had their "days polluted and unfit for public business."[42] These were the ἀποφράδες ἡμέραι, "certain days which brought with them complete idleness and cessation of business, and which were called unlucky (ἀποφράδες). At such times no one would accost any one else, and friends would positively have no dealings with each other and even sanctuaries were not used."[43] Three such days occurred from the 11th to the 13th of the month Anthesterion, when the Athenians celebrated the festival of the Anthesteria. Though in outward semblance only a brilliant ceremony in honor of the wine-god Dionysus, the Anthesteria had also a sombre significance as the time when the shades of the dead issued from the underworld and walked the streets.[44] Ropes were fastened round the temples to keep out the wandering ghosts, and the people smeared their houses with pitch to catch any rash intruders into the dwellings of living men.[45] For the entertainment of the unseen guests during their short stay pots of boiled food were everywhere placed in the streets; but at the end of the festival the souls were roughly bidden to depart. Thus the Anthesteria, in substance, formed one of those numerous ceremonies for the riddance of ghosts by means of feasting and placation, which have so wide a diffusion in the lower culture. The attribution of the festival to Dionysus and all those pleasanter associations with which the cheerful fancy of the

[42] Plato, *Leges*, vii. 800.

[43] Scholiast, on Lucian, *Timon*, 43.

[44] *Cf.* Hesychius, *s. v.* μιαραὶ ἡμέραι: "the polluted days of the month Anthesterion, on which days they think the souls of the departed are sent up from the nether world." Photius, *s. v.*, μιαρὰ ἡμέρα, says that on the second day, the Choes, the people as prophylactics against ghosts and evil influences used to chew buckthorn and anoint their doors with pitch.

[45] See Frazer's note (*op. cit.*, iii. 88 *n.*[2]) for some related customs of savages.

Greeks invested it, represent a comparatively late development.[46]

The two Roman festivals of the dead, the so-called Parentalia in February, the Lemuria in May, were likewise celebrated as *dies religiosi,* true days of abstinence, when it was unlucky to begin a journey or to undertake any important business. At such times the temples and lawcourts were closed, magistrates laid aside the insignia of office, and marriages were forbidden.[47] The February celebration from the 13th to the 21st of that month has been taken to embody all that was least superstitious and fearful in the generally terrifying worship of the dead. The Lemuria, (May 9, 11, 13), had rather an opposite character and represents the more ancient rite for the expulsion of the ghosts of the dead.[48] The three days in the Roman year, August 24, October 5, and November 8, when the door of the Lower World was unclosed for the spirits of the dead to come forth—*quibus mundus patet*—were also *religiosi* or unlucky. "When the *mundus* is open," said Varro, "the gate of the doleful underworld gods is open, therefore it is not proper on those days for a battle to be fought, troops to be levied, the army to march forth, a ship to set sail, or a man to marry."[49]

[46] On the Anthesteria, from an anthropological standpoint, see particularly Jane E. Harrison, *Prolegomena to the Study of Greek Religion,* Cambridge, 1903, pp. 32 *sqq.*, 49 *sqq.* Dr. L. R. Farnell who has recently examined the Anthesteria, does not share Miss Harrison's view that the whole of the festival was originally an All Souls' feast. He thinks the first day, the Pithoigia, was entirely joyous and Bacchic, the second day, the Choes, was also a purely Dionysiac festival, though perhaps of a less happy character. Dr. Farnell holds that the ritual for the third day, the Chytroi, was originally an independent ceremony of ghost-riddance which fell so near the Dionysiac celebration as to become attached to the latter as a mournful *finale* (*Cults of the Greek States,* Oxford, 1909, v. 215 *sqq.*).

[47] Aulus Gellius, *Noctes Atticae,* iv. 9, 5; Varro, *De lingua Latina,* vi. 29 *sq.*

[48] Ovid, *Fasti,* v. 419–86; W. W. Fowler, *Roman Festivals of the Period of the Republic,* London, 1899, pp. 306 *sqq.*, 106 *sqq.*; G. Wissowa, *Religion und Kultus der Römer,* Munich, 1902, pp. 187 *sqq.*

[49] Macrobius, *Saturnalia,* i. 16, 18. *Cf.* Festus, 154. Mommsen (*Corpus Inscriptionum Latinarum,* i. part i². 296) holds that the exercise of religious rites was not forbidden on these three days.

III. PERIODS OF ABSTINENCE AT SACRED TIMES AND SEASONS

7. THE CONCEPTION OF HOLINESS

To the primitive mind that variety of impersonal spiritual power known as sanctity or holiness, which attaches to the divine chief or king, to such objects of special reverence as bull-roarer, idol, and temple, and even to particular localities, is sufficiently material to be transmissible, and to be capable of infecting with its mysterious qualities whatever is done at a particular time. It is, of course, only for the purpose of closer analysis that we may separate the taboos restricting or prohibiting secular employments on sacred days from those other negative regulations which, as has been seen, affect a community at critical epochs (*supra*). In the primitive consciousness what is dangerous because polluted and what is dangerous because sacred, are not sharply differentiated. The "holy" thing and the "unclean" thing possess alike the mystic potency, the magical power, the *mana* or *orenda,* to employ an aboriginal terminology which expresses early man's sense of being ever surrounded by unknown agencies among which he must walk warily if he is to walk in safety.[1]

"The Greeks and the barbarians," says an old geographer, "have this in common, that they accompany their sacred rites by a festal remission of labor."[2] To drop work on a joyous feast-day and give free rein to the primitive play instincts may be regarded as the most natural of proceedings. The cessation of ordinary activities is often dictated by practical considerations: if men are to gather for religious exercises they must abandon, temporarily, their usual occupations. Among peoples which

[1] The best study of holiness in its relation to the concept of taboo is still that of W. Robertson Smith (*Religion of the Semites,*[2] London, 1894, chaps. iv–v). Mr. Marett has some interesting remarks on the subject in the Oxford inaugural lecture referred to above (*The Birth of Humility,* 14 *sqq.*).

[2] Strabo, *Geographica,* x. 3, 9.

possess polytheistic cults, we find, moreover, that most holy days are dedicated to various deities. If the notion be entertained that the "infection" of the god's holiness extends to everything begun or done on his holy day, it is easy to see how the idea might arise that the deity is pleased and flattered by the enforced idleness of his worshippers. Abstinence from work thus becomes a recognized way of expressing a proper reverence towards the god. Conversely, to labor on a sacred day implies a want of respect for the divinity, who is "angry" or "unfavorable" at such a time. These are sentiments reasonably certain of continued development as priestly influence becomes predominant in any community. "The Lord thy God is a jealous God."

At the same time it appears that in many, perhaps most instances, the connection of a holy day with a particular divinity is not primary and direct, but comes rather as an after-thought. The period dedicated to a god and observed with abstinence may have been once tabooed for other and quite different reasons. What was true of the Athenian Anthesteria we shall find to be true of many another holy day discussed in this and subsequent chapters.

8. HOLY DAYS IN THE LOWER AND THE HIGHER CULTURE

Among peoples belonging to the lower culture the Tongan Islanders furnish an illustration of the holy day which is also a day of abstinence. In this part of Polynesia the natives held a festival called *inachi* when the first fruits of the yam harvest were offered to the gods. No one was allowed to work on the sacred day, nor could any one appear abroad except for the purposes of the ceremony.[3] It is not improbable that the cessation of labor characterizing this ceremony formed a rite of purification preliminary to the bringing-in of the first-fruits. On such a hypothesis the connection of the festival with the gods would be but secondary, a point more clearly brought out by some

[3] John Martin, *Account of the Natives of the Tonga Islands . . . from the Extensive Communications of Mr. William Mariner,* Boston, 1820, p. 483. *Cf.* 383 *n.*

classical festivals presently to be discussed. Amongst certain Fijian tribes when the sacred *nanga* enclosure was being raised for the initiation ceremonies the people suspended all other work. Not even food-planting might be done at this time. If "any impious person transgressed this law, 'he would only plant evil to himself and to his kinsfolk.'"[4] In this instance there was no attribution of the sacred period to any particular divinity, though all the ceremonies connected with the *nanga* were supposed to be under the care and by the direction of the ancestral spirits. In another part of the world, among the Basuto of South Africa, we learn that days of sacrifice or "great purification" are holidays, when no work is done. "Hence it is," writes a French missionary, "that the law relative to the repose of the seventh day, so far from finding any objection in the minds of the natives, appears to them very natural, and perhaps even more fundamental, than it appears to certain Christians."[5]

To the Hebrews the Day of Atonement was the *šabbāth šabbāthon*,[6] the holiest of rest days, "a sabbath of solemn rest," when "no manner of work" might be performed. The transgressor of this regulation was threatened with death: "Whoever doeth any work at all on that same day, I will destroy from among his people."[7] A similar punishment is prescribed for one who does not fast on that day: the expression "to afflict your souls" (*'innā nephesh*) was considered by late theologians to be a synonym for fasting, and as a matter of fact the Atonement fast was the only one enjoined by the Law. On the Day of Atonement a scapegoat laden with the sins of the people was sent forth into the wilderness where it was sacrificed to Azazel, a bad angel or demon. In the later centuries of Jewish history, and particularly after the Exile, this rite took on a more spiritual character at a time when the ceremonial aspects of sin and

[4] Fison, in *Journal of the Anthropological Institute*, 1885, xiv. 18.

[5] E. Casalis, *Les Bassoutos*, Paris, 1859, p. 275.

[6] Both expressions are commonly derived from the Babylonian *šabattum*. See *infra*.

[7] *Leviticus*, xvi. 31; xxiii. 26–32.

atonement became increasingly prominent. Yet certain features of its celebration, and especially that of the sin-laden goat which has so many parallels among the lower races,[8] make it probable that the ritual for the day represents an elaboration of earlier and simpler customs familiar in pre-Exilic times. If this be true it is not unreasonable to suppose that the "sabbath of solemn rest" forms likewise a survival from a still ruder past when sin was conceived so materially as a contaminating influence that common prudence dictated abstinence from work and other activities at a critical season devoted to the driving-out of evil.[9]

The Greeks of late classical times appear to have regarded their religious festivals much as we regard our holidays: thus Plato declares that "the gods, pitying the toils which our race is born to undergo, have appointed holy festivals, by which men alternate rest and labor."[10] With this remark, indicating that for the philosophic thinker the process of rationalization had begun, it is interesting to compare the statement of a modern scholar that among the Greeks "the time occupied by the feast of the gods was as sacred, *i. e.*, as much subject to taboos, as was the whole of the Jewish Sabbath."[11]

[8] On "scapegoats" see Frazer, *The Golden Bough*,[2] iii. 93–134.

[9] On the relation of the Hebrew *kipper* or atonement to the Babylonian *kuppuru* and the connection of both with ideas of taboo see some suggestive pages in R. C. Thompson, *Devils and Evil Spirits of Babylonia*, London, 1904, ii. pp. l. *sqq*. It is not necessary to accept his view that the Jewish ceremony was directly borrowed from Babylonia.

[10] Plato, *Leges*, ii. 653.

[11] E. E. Sikes, "Folk-Lore in the Works and Days of Hesiod," *Classical Review*, 1893, vii. 390. Mr. Sikes quotes Hesiod (*Opera et Dies*, 742–43):

> μηδ' ἀπὸ πεντόζοιο θεῶν ἐν δαιτὶ θαλείῃ
> αἶσον ἀπὸ χλωροῦ τάμνειν αἰθωνι σιδήρῳ

as containing a two-fold prohibition: "Do not cut your nails at all at a feast of the gods. Whatever you do, at all events, do not cut them with iron." With this he compares the English lines:

> "It was better you were never born
> Than on the Sabbath pare hair or corn."

Another old English rhyme (preserved in Henderson's *Notes on the*

How ancient superstition invested many of the Greek festivals has been already illustrated by the Anthesteria (*supra*). Among the other unlucky days (ἀποφράδες ἡμέραι) observed by the Athenians were those devoted to the celebration of the Plyntheria, the washing festival of their patron goddess. On this occasion Athena's image was borne in procession to the sea, divested of its adornments, and laved in the purifying waters. Plutarch's biography of Alcibiades contains a significant reference to the ceremony. At the time when that brilliant though shifty Greek returned from exile to his native city, the people were holding the Plyntheria, in Athena's honor. On that day "the Praxiergidae solemnize their secret rites: they take off all the ornaments from her image and cover it up. Hence the Athenians account this day as most unlucky of all, and do no work on it. And it seemed as though the Goddess were receiving him in no friendly or kindly fashion, as she hid her face from

Folk-Lore of the Northern Counties of England and the Borders,[3] London, 1879, p. 18) runs as follows:

> "Sunday shaven, Sunday shorn,
> Better hadst thou ne'er been born!"

In certain parts of Ireland the people will not shave on Sunday (Kinahan, in *Folk-Lore Record,* 1881, iv. 105). Among the modern Egyptians, however, Saturday is held to be the unluckiest day, particularly unfavorable for shaving and cutting the nails (E. W. Lane, *Modern Egyptians,*[5] London, 1871, i. 331). Are these similarities to be explained by any hypothesis of the diffusion of culture (or superstition)?

In some parts of the modern Greek world we have what may be reasonably taken as direct survivals of the taboos formerly investing the festal days of classical divinities. Thus in Cyprus and certain Aegean islands the first three or six days of August are times when no trees are cut or peeled to obtain resin, when the use of water for washing either clothes or the body is forbidden, and when no one travels by water. In Cyprus the severity of the regulations has led to the days being called the "evil days of August." The careful observer who reports these facts argues most plausibly that the periods thus marked by special forms of abstinence were originally sacred to tree-nymphs and water-nymphs, whose festivals were observed in pagan antiquity (J. C. Lawson, *Modern Greek Folklore and Ancient Greek Religion,* Cambridge, 1910, pp. 152 *sq.*).

him and seemed to banish him from her presence."[12] Miss Harrison's brilliant researches have shown that the Plyntheria and its attendant festival, the Kallyntheria, when Athena's image was redressed and "beautified," were originally rites of purification at harvest time, rites which must have existed long before their attribution to the protecting deity of Athens.[13]

With the Plyntheria may be profitably compared the better-known Roman festival of the Vestalia. The Athenian ceremonies came in May, the Roman in June, but their content as purificatory rites preliminary to the bringing-in of the first-fruits was much the same. The nine days devoted to the Vestalia were ill-omened (*religiosi*). During their celebration the innermost sanctuary of Vesta, shut all the rest of the year, was opened to the matrons of Rome, who crowded to it barefooted, whilst the Vestals themselves offered the sacred cakes made of the first ears of corn plucked a month previously. On the ninth day (June 15) the temple was swept and the refuse thrown into the Tiber. Then the *dies religiosi* came to an end as soon as the last act of cleansing had been duly performed—*Quando stercus delatum fas,* "When the rubbish has been carried away."[14]

In addition to such festivals as the Parentalia, Lemuria, and Vestalia, celebrated on unlucky days when all important undertakings, both religious and secular, were intermitted, the Romans had also their distinctively sacred days. The *feriae,* or *dies feriati,* included all days consecrated to any deity.[15] On the

[12] Plutarch, *Alcibiades,* 34.

[13] *Prolegomena to the Study of Greek Religion,* 114 *sqq.* In the post-Exilic calendar of the Jews the Day of Firstfruits, inaugurating the Feast of Weeks, is declared to be a time when "no toilsome work" is allowable (*Leviticus,* xxiii. 21; *Numbers,* xxviii. 26).

[14] Varro, *De lingua Latina,* vi. 32; Ovid, *Fasti,* vi. 707 *sqq.;* Fowler, *Roman Festivals,* 148 *sqq.*

[15] *Feriae* seems to have been originally *fesiae* (Wissowa, *op. cit.,* 366 *n.*[1]), hence *dies feriati* must have been equivalent to *dies festi,* though some authorities hold that not all ferial days were consecrated to the worship of the gods. Possible exceptions were the seven days of the Saturnalia and the *nundinae* (*infra*). In the earlier period the ferial days

calendars they are marked *nefasti,* indicating that at such times all political and judicial business must be suspended. They were days when the gods demanded the service of men by visits to the temples, by prayers and sacrifices. Hence the *feriae* formed holidays when even slaves enjoyed a cessation from toil. We may assume with confidence, however, that the ferial days were not established as a boon to the laborer. The regulations enforced at such times indicate how, in Roman belief, it was essential that the sanctity of the season should not be polluted by unseemly activity. The *rex sacrorum* and *flamines* were not allowed even to see any work being done during the celebration of the *feriae;* hence, when they went out, heralds preceded them to enjoin the people from working in their presence. An accidental neglect of such admonitions was punished with a fine and atonement was made by the sacrifice of a pig. An intentional disobedience constituted a crime beyond the power of atonement. In the later centuries of the Republic the growing spirit of rationalism began to raise questions as to what kinds of work might properly be done on the public *feriae.* One pontiff declared that it was no violation of them for a person to do any work which had reference to the gods or the offering of sacrifices —*ad deos pertinens sacrorumve causa.*[16] All labor was likewise allowable which was necessary to supply the urgent wants of life. The pontiff Scaevola held that any work might be done if suffering and injury were caused by its neglect or delay—*licet quod praetermissum noceret.*[17] Consequently, should a man's ox fall into a pit he might employ workmen to lift it out without polluting the *feriae.* Vergil, writing when this rationalistic movement had culminated, declares that "even on holy days some work is permitted by the laws of God and man. The strictest worshipper has never scrupled to drain the fields, plant a hedge to protect a crop, set snares for birds, fire the brambles, or wash his bleating

were not calendarized, but were determined by the phases of the moon (Daremberg and Saglio, *Dictionnaire des antiquités grecques et romaines,* iii. 174).

[16] Macrobius, *Saturnalia,* i. 16, 10.

[17] *Idem,* i. 16, 11.

sheep for health's sake in the stream."[18] Such interpretations indicate that in late classical antiquity the burdens of the old tabooed days were being gradually lifted and their observance adjusted to the social and economic needs of a progressive community.

These old Roman festivals, kept so scrupulously in the earlier epoch, are further significant since they present the closest classical analogy to the periods of abstinence which we have previously met in the modern savage world (*supra*). The celebration of a ferial day, to the Roman as to the Naga of Assam, formed the most appropriate way of confronting a crisis. The man who had blasphemed and so incurred the divine anger ought to placate the outraged deity by celebrating a private festival. One who had pronounced by accident the names of certain mysterious divinities resorted to a similar procedure (*ferias observabat*). The Flaminica or wife of the Flamen Dialis was invested, like her husband, with a network of taboos: if she heard thunder she became tabooed—*feriata*—until the celebration of an expiatory sacrifice (*donec placasset deos*).[19] Certain natural phenomena resulted in the cessation of all public activity by the people at large and the institution of extraordinary festivals. A rain of stones from heaven, accompanied by lightning, provoked a nine-days' festival in the time of Hannibal's invasion of Italy; two and a half centuries later, the emperor Claudius, when an earthquake happened at Rome, never failed to "appoint holidays for sacred rites."[20] Such examples, which by no means exhaust the subject, may nevertheless suffice to show how in ancient Rome the *feriae* were ceremonies to appease the supernatural powers; and how the times of their celebration were originally periods of gloom and not of joy. That subsequently,

[18] *Georgica*, i. 268–72. *Cf.* Cato's injunctions: "On holidays, old ditches could have been repaired, the public roads paved, bramble-bushes cut down, . . . everything made neat and clean" (*De re rustica*, 2).

[19] Macrobius, i. 16, 8. On the taboos affecting the Flamen and Flaminica see F. B. Jevons, *Plutarch's Romane Questions*, London, 1892, p. lxxiii *sqq.*; Frazer, *The Golden Bough*,[2] i. 241 *sq.*

[20] Livy, xxv. 7; Suetonius, *Claudius*, 22.

when superstition had somewhat relaxed its grip, they became festive occasions (*infra*), celebrated so luxuriously that both Sulla and Augustus felt themselves obliged to promulgate laws restricting the expenditure at such times, is only another instance of man's ineradicable tendency to convert his fast days into feast days.[21]

9. QUASI-HOLY DAYS

In addition to those seasons of sacredness which come at times devoted to the worship of the gods, there are also found certain rest days, more or less regular in occurrence, following at short intervals after periods of continuous labor. Such *quasi*-holy days, as they may be styled provisionally, might appear to have a purely utilitarian origin. As far as my investigations have proceeded they indicate the absence of periodic rest days among migratory hunting and fishing peoples[22] and among nomadic pastoral tribes. A wandering hunter requires no regular day of rest, since his life passes in alternations of continuous labor while following the chase and of almost uninterrupted idleness after a successful hunt. For the shepherd there can be no relaxa-

[21] See generally on the *feriae* Wissowa, *Religion und Kultus der Römer*, 365 *sqq.*; A. S. Wilkins, "Feriae," in Smith, Wayte, and Marindin, *Dictionary of Greek and Roman Antiquities*,[3] London, 1891, ii. 836–38; C. Julian, "Feriae," in Daremberg and Saglio, *op. cit.*, iv. 1042 *sqq.*, where the pertinent literature is fully cited.

[22] The Indians of Cape Flattery are said to make the month of August a tribal season of repose when no berries are picked or fish taken from the sea, except occasionally by children (Swan, in *Smithsonian Contributions to Knowledge*, xvi. no. 220, p. 91). Perhaps the practice was consciously designed to establish a "closed season," though this is probably attributing too much foresight to the Indian. The fish or berries may have been considered unfit for eating in August. Among the Beni of Benin during the first month of their dry season, the harvest of yams having been reaped, the people say they "rest and chop" (R. E. Dennett, *At the Back of the Black Man's Mind*, London, 1906, p. 216). Here a season of rest is observed by an agricultural people because they have no special labor to perform. Similarly, among the Akikuyu of British East Africa, there are three months in the year when little or no work is done since the crops are then ripening (Dundas, in *Man*, 1909, ix. 38).

tion of the diurnal duties, for every morning the cattle must be driven abroad to pasture, they must be watched and watered, and at night they must be milked. Possibly, also, as von Ihering has suggested, the shepherd, compared with the farmer, has scarcely any need of a regular rest day; his occupation causes him so little continuous exertion that he can pursue it all the year round without any injury to his health.[28] A farmer, however, is benefited by a period of rest recurring more or less regularly, and though agricultural pursuits are dependent on the seasons and weather he is usually able to postpone his work for a brief period without serious loss. It might, therefore, be argued that a change from pastoral to agricultural life would itself be sufficient to call into existence the institution of a periodically recurring day of rest.

But this purely theoretical reasoning ought to be confirmed by numerous instances of sabbaths regularly observed by primitive agricultural peoples. If such are not widely found it may then be urged that the connection of the rest day with the farmer's pursuits is in most cases secondary, due to the obvious facts that the sabbath institution implies a settled life, a developed form of social organization and government, and something approaching a calendar system. In nearly every instance where an agricultural people observes a periodic rest day this is also a "sacred" day, dedicated to a divinity and hedged about with taboos. It seems scarcely in accord with what we know of primitive culture to assume that the sacred or *quasi*-sacred rest day generally arose from purely practical considerations, and afterwards, to preserve its integrity, was safeguarded with prohibitions and consecrated to a god. At the same time this explanation may hold good in some of the instances to be cited. Utility, as well as superstitition, has played a part in the genesis of social institutions.

The references to regular rest days among primitive peoples are not numerous and often are most obscure. A missionary who was well acquainted with the Melanesian peoples, refers to an interesting custom observed by the inhabitants of Kerepunu,

[28] *Evolution of the Aryan*, London, 1897, p. 117.

a small island off the coast of southeastern New Guinea. The natives are most industrious: every morning men, women and children go to work in the fields and return only at nightfall. "They have a rule, to which they strictly adhere all the year round, of working for two days and resting the third."[24] A recent student of the Bontoc Igorot, mountain farmers in the northern part of Luzon, tells us that they have a "sacred" rest day called *těngao'*, almost certainly of native origin. It occurs, on an average, about every ten days during the year, though not with absolute regularity. The old men of the two divisions of the pueblo determine when it shall take place, and announcement is publicly made on the preceding evening. "If a person goes to labor in the fields on a sacred day—not having heard the announcement or in disregard of it—he is fined for 'breaking the Sabbath.'"[25] As to the remote origin of this Filipino institution

[24] Chalmers and Gill, *Work and Adventure in New Guinea*, London, 1885, pp. 40 *sq.* See also (Sir) William MacGregor, *British New Guinea*, London, 1897, p. 44. A close observer, G. A. J. van der Sande, did not notice any special rest days among the peoples with whom he came in contact and whose customs he has so fully described (*Nova Guinea*, iii. Leiden, 1907, p. 270).

[25] A. E. Jenks, in *Ethnological Survey Publications*, Manila, 1905, i. 206. In a letter dated December 10, 1910, Professor Jenks tells me that these rest days "are selected so that such intimate, important interests as agriculture and beneficial weather may be given the amount of attention they deserve. The people have no calendar for succeeding ceremonial observances, so a priesthood has developed to fix such days at the opportune time when needed. They are sacred because all petitions are made to Lumawig, their god, a living spirit, hero and benefactor." In a second letter under date March 8, 1911, Dr. Jenks writes: "I believe the rest days are first for the purpose of having time for religious observances—this fact necessitated the rest. I never proved this point, however." The Bontoc Igorot observe a number of ceremonies connected with their agricultural operations and designed, like those of the Dayaks and Nagas, to secure an abundant crop. Thus at the beginning of *baliling*, the fifth period of the Bontoc year, when there is a general planting of camotes, a rite called *loskod* is performed: the pueblo priest kills a chicken or pig, and then petitions Lumawig for so many camotes "that the ground will crack and burst open." At the close of the period of *baliling* there ensues a three days' rest known as *kopus* when supplications are addressed to Lumawig and a chicken is

we are left in the dark. The same obscurity veils the "sabbath" kept by the Lolos, Pula, and other aboriginal tribes of western China, as a rule, every sixth day. No ploughing must take place at this time, and in some places the women are not even allowed to sew or wash clothes.[26] Among the Kafirs of north-eastern Afghanistan there is a rest day called *agar* which occurs weekly, on Thursday or Saturday, but only during the months from April to September when field work is in progress. The traveller who mentions the *agars* seems to imply that they were rigorously observed by the male members of a village, though only field work was stopped for women who were constantly to be seen carrying stones or earth for building operations or engaged in other coolie labor on the rest days. Though our authority failed to discover the origin of this Kafir institution he suggests that it may have been once considered as an unlucky day since the people were averse to starting on a journey as well as to engaging in farm labor at such a time.[27]

ceremonially killed. Again, the Bontoc Igorot have several rites connected with climate. The *fakil* ceremony for rain occurs four times a year, on four succeeding days, and is performed by four different priests. "There is the usual ceremonial pig killing by the priest, and each night preceding the ceremony all the people cry: '*I-těng'-ao ta-ko nan fa-kĭl'.*' This is only an exclamation, meaning, "Rest day! We observe the ceremony for rain!" (Jenks, *op. cit.*, 213). These and other examples given by Prof. Jenks in his monograph indicate clearly that the Bontoc feasts and ceremonies are intended to propitiate evil-minded spirits and to secure material blessings from Lumawig, the supreme being. The analogies from Borneo and Assam suggest that here in Luzon the rest accompanying the rites has likewise a propitiatory character quite as much as the prayers and sacrifices. The same interpretation would accordingly apply to the regular rest day called *těng-ao'*, although the latter seems now to be regarded chiefly as a holiday. The small boys, says Prof. Jenks, "make more noise in the evening before the rest day, crying '*Těng-ao'! whi těng-ao'!*' ('Rest day! hurrah! rest day!'), than I have heard from the pueblo at any other time" (*op. cit.*, 205).

[26] Henry, in *Journal of the Anthropological Institute*, 1903, xxxiii. 105.

[27] (Sir) G. S. Robertson, *Káfirs of the Hindu-Kush*, London, 1896, pp. 579 *sq.* Though the Kafirs now have free intercourse with their Mohammedan neighbors there is no reason to believe that the *agar* day owes anything to the Mohammedan sabbath which comes on Friday and is observed throughout the year.

a. The Toda Days of Abstinence

The Todas, who dwell in permanent villages on the undulating plateaus of the Nilgiri Hills in southeastern India, have a remarkable system of rest days. The social organization of this interesting people consists of two endogamous divisions, called Teivaliol and Tartharol. Each of these primary sections is composed of intermarrying clans, and each clan possesses a group of villages in common. At the present time Toda interests, both economic and religious, center about their buffaloes. The daily life of the Toda men is largely devoted to the care of these animals and to labor in the dairies. The buffalo is a sacred animal, the dairy itself is almost a temple, the dairyman is only one remove from a priest. In fact, Toda religious rites seem to be little else than the arrangements which a pastoral and communistic people have made for the provision and care of an article of food. According to Mr. Rivers, whose careful studies are a model of anthropological investigation, nearly every Toda ceremony has its appointed day or days. The choice of these "is often dependent on another Toda institution, the sacred day, either of the village or of the dairy. Every clan has certain days of the week on which people are restricted from following many of their ordinary occupations, although they are not the occasions of any special ceremonies. These sacred days are the *madnol* or village day, and the *palinol* or dairy day."[28] We begin with the former.

Each Toda village has its *madnol,* but in general where there are several villages of the same clan the *madnol* is the same for the whole clan. There are at least eight prohibitions characterizing the observance of this sacred day. Feasts may not be given at such a time, funeral ceremonies may not be performed, the people may not bathe or cut their nails, and the men may not shave. Clothes are not to be washed, the house is not to be cleansed, and though the ordinary meals may be prepared, the people must not cook rice with milk. Other regulations forbid the dairyman to leave the village, the buffaloes to be

[28] W. H. R. Rivers, *The Todas,* London, 1906, p. 405.

taken from one place to another, or the people to migrate from one village to another.[29] It will be noticed that though not all work is prohibited, yet the regulations are extensive enough to affect most of the customary occupations.

Among the Teivaliol, one of the two endogamous divisions of the Toda people, the *madnol* is the only sacred day of the week. With the other division called Tartharol there is also a dairy day or *palinol,* the regulations for which have much the same character as for the *madnol.*

Toda ingenuity has devised various recognized ways of evading the rules for the holy days and so of avoiding the inconvenience which might otherwise be entailed on the people. For instance, the rule that nothing may be taken from the village on the *madnol* has the unpleasant consequence that nothing may be bought on the *madnol,* since buying implies the departure of money from the village. This rule is circumvented when necessary by taking money out of the village on the day before the *madnol* and burying it in some spot where it can be found on the following day. In this way a purchase can be completed even on the holy day. Again, the rule forbidding women to leave the village on the *madnol* is evaded in an ingenious fashion. Women who wish to leave the village on a holy day, do so before daybreak. "They wait outside the village till the sun is up, then return to the village, have their meals and do any necessary work, and may then leave. Having left the village before daybreak, a woman is apparently regarded as ceremonially absent during her return to the village, and by making this false start she is held to be keeping the law."[30]

With these possibilities of evasion, it follows that the rules are rarely broken. When a breach of them does occur the culprit may have to perform a propitiatory sacrifice similar to that which follows the commission of various other ceremonial sins against the Toda moral code. "It seemed quite clear, however, that this only happened if some misfortune should befall the

[29] Rivers, *op. cit.,* 405 *sq.*
[30] *Ibid.,* 407.

offender, his family, or his buffaloes. It would seem that a man might habitually and notoriously desecrate the *madnol*, but no steps would be taken by himself or the community so long as things went well with the man. If he should become ill or if his buffaloes should suffer in any way, he would consult the diviners and they would then certainly find that his misfortunes were due to his infringement of the laws connected with the sacred days."[31]

There is much variety in the days observed as the *madnol* or *palinol* of the different villages and clans. The most frequent days appear to be Wednesday and Friday, which are sacred in six clans. Sunday is sacred in five clans, Monday and Tuesday in three, Thursday in two. In no clan does Saturday appear to be kept as a holy day.[32]

The origin of these sacred days among the Todas is very obscure. Mr. Rivers first suggests the possibility of the institutions of *madnol* and *palinol* having grown out of the belief in unlucky days. The code of rules prescribing what might and what might not be done would then be only an elaboration of the common superstition which restricts activity at such unlucky periods. But there are several difficulties in the way of this view. It is extremely doubtful whether the Toda in general has any such belief in days lucky and unlucky,[33] and if he has, the idea is probably a recent importation from the Hindus, among whom the superstition is very prevalent. Again, the distinction between *madnol* and *palinol* is one which cannot be satisfactorily explained by such an hypothesis. Finally, the different clans of the Todas have different sacred days, whereas one would expect lucky and unlucky days to be the same for the entire community. This seems especially reasonable when it is considered that the sacred days, by restricting intercourse between the different clans, produce much inconvenience, which of course is increased by the

[31] Rivers, 407.

[32] *Idem*, 408.

[33] See Rivers, 411, for a reference to certain restrictions which may have arisen out of a belief in unlucky days. Ross King (*Journal of Anthropology*, 1870, i. 33 *sq.*) expressly attributes this superstition to the Todas.

fact that the different clans have different *madnols*. Whatever be the origin of these Toda rules, there is, writes Mr. Rivers, "little doubt that when at the present time a given act is done or not done on a given day, the action is not based on a belief in lucky or unlucky days, but, as nearly always among the Todas, on custom prescribing that the act shall or shall not be done on that day."[34]

The question may be raised whether the resemblance of the Toda *madnol* to the Hebrew Sabbath may not be accounted for by supposing the former institution to have been founded on ideas borrowed from Christians or Jews. If this has been the case it is certain that the borrowing took place very long ago. In studying the origin and history of the Todas we have no record that reaches back more than three centuries. From various close resemblances between the Toda customs and those of the people of Malabar Mr. Rivers thinks it probable that the Todas at one time lived in Malabar, migrating thence to the Nilgiri Hills. Both Christians and Jews were well established in Malabar more than a thousand years ago. If the Todas left Malabar before these settlements of foreigners were made, then Jewish or Christian influences can be excluded; if the migration took place subsequently, then they may have contributed to the development of the Toda institutions.[35]

In spite of these considerations Mr. Rivers is apparently inclined to consider the Toda *madnol* as substantially a native institution which may help to explain the origin of the Hebrew Sabbath. "In a busier community than that of the Todas, the existence of different *madnol*[*s*] for different clans of the community would soon become a serious obstacle to carrying on the business of life, and such a community would probably agree that all clans should have the same holy day. At present the *madnol* is undoubtedly more sacred than the other sacred days, and if the latter were then to be neglected, we should have a community in which various activities were prohibited on one day of the

[34] *The Todas*, 410 *sq.*
[35] *Ibid.*, 459, 695 *sqq.*, 710 *sq.*

week, and the institution so arising would differ very little from the Hebrew Sabbath. It is possible that the Todas show in an early stage the institution of a Sabbath in which the whole community has not yet settled on a single and joint holy day."[36] This interesting hypothesis, which is put forth tentatively, throws no light on the reasons which led to the ascription of a *tabu* character to certain days. Mr. Rivers himself refers to the "enormous influence of the period of the moon in Toda ceremonial,"[37] a fact which suggests that the Toda rest days had their ultimate origin in those seasons of abstinence at the lunar changes found elsewhere in India (*infra*) and so generally in other regions of the world.

b. Tabooed Days in West Africa

We must regret the scantiness of our information regarding the rest days observed by certain African tribes. Thus many of the Gallas are said to show great respect for Saturday and Sunday, and on these days do not work in the fields. Here we may legitimately assume Jewish and Christian influences from Abyssinia, especially since the Gallas of equatorial Africa do not observe any periods of rest. The missionary Krapf, who notices this African sabbath, is inclined, however, to ascribe a purely rationalistic origin to the custom. He points out that whilst the Wanika of German East Africa rest from labor every fourth day and pass the time in feasting and carousing, their neighbors, the nomadic Masai and Wakuafi, know no distinction of days "solely because, from their point of view, they do not think that any particular day of rest is required."[38]

Throughout central Africa from the British and German possessions in the east to the Portuguese and French possessions in the west, there is a market place every few miles at which the neighboring tribes meet regularly for exchanges. Usually

[36] *The Todas*, pp. 411 *sq.*

[37] *Ibid.*, 592.

[38] J. L. Krapf, *Travels, Researches, and Missionary Labours*, London, 1867, pp. 82, 365.

every fourth day is a market day observed by the cessation of ordinary occupations. The custom among the Wanika has already been noticed. Among the Akikuyu of British East Africa who employ 30-day months beginning with new moon, there is a week of four days, the latter being indicated by the names of the different markets held on them. Each market takes place on the fourth day of the cycle and no two markets in the same neighborhood occur on the same day.[39] In the Congo Free State similar four-day periods closing with a market prevail among the tribes of the Lualaba district,[40] among the Ba-Yaka, a Bantu people occupying the Kasai district,[41] and among the Ba-Mbala who dwell between the rivers Inzia and Kwilu. The Ba-Mbala year consists of thirteen lunar months, each divided into seven weeks of four days, the last day being *pika*, the market day.[42]

A week of four or more days, one of which is usually observed as a market-day and sabbath, may be traced in west Africa from the Congo to the Niger. In the language of the western Congo tribes the week is called *lumingu*.[43] In Loango, where the natives have a month of twenty-eight days reckoned from new moon, seven weeks are counted to the month. The week contains four days called, respectively, *nssoña, ndúka, ntōno,* and *nsīlu,* the first being regarded as a day of rest.[44] With this account it is interesting to compare the statement of an old writer, according to whom the Loango negroes "never work above three days in succession; the fourth is for them a general rest day, during which they are not allowed to busy themselves in tillage.

[39] Dundas, in *Man*, 1909, ix. 38. *Cf.* W. S. and Katherine Routledge, *With a Prehistoric People*, London, 1910, p. 105.

[40] V. L. Cameron, *Across Africa*, London, 1877, ii. 3.

[41] Torday and Joyce, in *Journal of the Anthropological Institute*, 1906, xxxvi. 44.

[42] Torday and Joyce, *ibid.*, 1905, xxxv. 413. *Cf.* also *ibid.*, 1906, xxxvi. 291 (Ba-Huana).

[43] (Sir) H. H. Johnston, *The River Congo*, London, 1884, p. 455.

[44] E. Pechuël-Loesche, in *Die Loango-Expedition*, dritte Abteilung, erste Hälfte, Stuttgart, 1907, p. 139.

The men, who repose habitually, work still less on that day. They walk, sport, and go to market. The missionaries have never been able to procure from the negroes any explanation of this period of four days which forms their week."[45] In Congo Français the Bavili week also consists of four days. *Sona* is the men's day of rest, but the women's market day when only the women buy and sell in the market. At that time it is regarded as wrong for husbands to have intercourse with their wives. Another day, called *ntona,* is reserved for the women, who may not plant at this time. Burials also take place on the *ntona* day.[46] Among the Ibo and other tribes of Southern Nigeria, *eke,* the fourth day of the week, is observed as a day of rest and a market day.[47] In Great Benin the fifth day of the week was observed as a rest day by farmers, though other than agricultural labor might be carried on.[48] In Dahomi every fourth day is said to be a holiday, "not kept holy, but devoted to the will of the working classes; in short, a sort of remuneration to the slave for

[45] The Abbé Proyart, "History of Loango," in Pinkerton's *Voyages and Travels,* xvi. 576. *Cf.* also, Waitz, *Anthropologie der Naturvöiker,* Leipzig, 1860, ii. 201, who cites other authorities, to me inaccessible, for the attribution of the day to the gods.

[46] R. E. Dennett, *At the Back of the Black Man's Mind,* London, 1906, pp. 64, 140. Among the lower Congo tribes, generally, the dead are buried only on two days, *nsona* and *nkandu,* of the four-day week (J. H. Weeks, in *Folk-Lore,* 1909, xx. 61).

[47] A. G. Leonard, *The Lower Niger and its Tribes,* London, 1906, pp. 305, 375. *Cf.* also *Globus,* viii. 90. Seven weeks are counted to the month of twenty-eight days (W. F. Baikie, *Narrative of an Exploring Voyage,* London, 1856, p. 316). According to Bosman the negroes of Fida held a great market every three days (Pinkerton, xvi. 483).

[48] Cyril Punch, quoted in H. L. Roth, *Great Benin,* Halifax (Eng.), 1903, p. 52, n^1. Nyendael, at the opening of the eighteenth century, remarks on this custom as follows: "Their Sabbath happens every fifth day, which is very solemnly observed by the great, with the slaughter of cows, sheep, and goats, whilst the commonalty kill dogs, cats, and chickens, or whatever their money will reach. And of whatever is killed, large portions are distributed to the necessitous, in order to enable them, as every person is obliged to celebrate this festival" (*ibid.*). See also (Miss) Tucker, *Abbeokuta,* London, 1858, p. 37; Bosman, "Guinea," in Pinkerton's *Voyages and Travels,* xvi. 531.

the three days labor."[49] The Akposo of Togoland have a five-day week, the fifth day being held sacred to their creator-god, Uwolowo, whose name it bears. The other gods are worshipped on the second day of the week, a time when no work may be done.[50] Among the tribes of the Niger interior each town is said to hold a market once in four days.[51]

The natives of Africa, whether Bantu or negro, are the keenest of traders, and it might be supposed therefore that the cessation of agricultural labor on the market-days has only an utilitarian object in view. The origin of markets remains an obscure question; but the evidence from such different areas as Australia, Melanesia, the Andaman Islands, and America, indicates that neighboring peoples come together in the first instance for the celebration of religious rites and festivals at the conclusion of which there is opportunity for the interchange of gifts and bartering.[52] Similarly to the Greeks the Olympic games furnished the occasion for a great fair; in modern Europe all the important Church festivals are followed by fairs; in England however, the festival has become obsolete, the market having completely taken its place. These considerations suggest that on closer inquiry the African market-days may be shown to have had a religious origin, and that formerly their principal feature was not buying and selling but the performance of sacred ceremonies accompanied by a superstitious cessation of labor.

The excellent studies of the late Lieutenant-Colonel Ellis have supplied a considerable body of information regarding certain of the west African sabbaths which serves to strengthen the hypothesis formulated above. Our information relates to the Tshi-speaking and Ga-speaking peoples of the Gold Coast, and to

[49] F. E. Forbes, *Dahomey and the Dahomans,* London, 1851, p. 181.

[50] Müller, in *Anthropos,* 1907, ii. 201. Uwolowo corresponds to the Ewe "high god," Mawu (*infra*).

[51] William Allen, *Narrative of the Expedition Sent by her Majesty's Government to the River Niger in 1841,* London, 1848, i. 398.

[52] H. L. Roth, "Trading in Early Days," *Bankfield Museum Notes,* Halifax (Eng.), 1908, no. 5, pp. 23 *sqq.;* Webster, *Primitive Secret Societies,* 29, 31.

the Ewe- and Yoruba-speaking peoples of the Slave Coast. Of these the Tshi tribes (including the Fantis and Ashantis) are the least, and the Yoruba tribes (including the Egbas, Ibadans, Jebus, etc.), the most civilized. Among all these peoples there are a few general deities worshipped by the members of a tribe or of several tribes in common, a great number of local deities confined to one locality and one particular natural object, and, in addition, tutelary or protecting deities worshipped by special sections of the community or by families and individuals alone. Among the Tshi tribes, on the day sacred to the tutelary deity of a family all its members wear white or light-colored clothes, and mark themselves with white clay. On such days no work is done. If one of the members of the family be absent on a journey he must make a halt. The duration of such a festival depends on the position of the family. Ordinarily one day is considered enough, though influential chiefs may extend the period over two or three days. In celebrating the day sacred to the tutelary god of a town the practice is essentially the same. All the inhabitants abstain from labor, daub themselves with white clay, and appear in white or light-colored clothes.[53]

It is not, however, only the guardian gods of a family or a town who are honored with holy days. Among the Ewe tribes every general and tribal deity, with the exception of Mawu, the most powerful of their divinities, has his sacred day.[54] Saturday, for instance, is sacred to Khebioso, the lightning-god. It is kept as a holy day by his followers, who pass it in eating, drinking, and dancing.[55] The Yoruba tribes, who have a five-day week,[56] keep

[53] A. B. Ellis, *Tshi-Speaking Peoples,* London, 1887, pp. 93, 89. On the Gold Coast white seems to be the special color appropriate for holy or festive days. On a man's birthday, which is sacred to his *kra*, or tenanting spirit, he abstains from work, puts white clay on his face and dons a white cloth (*ibid.*, 156).

[54] Ellis, *Ewe-Speaking Peoples,* London, 1890, p. 79.

[55] *Ibid.*, 41.

[56] *Ako-ojo* ("First Day"), *Ojo-awo* ("Day of the Secret" [sacred to Ifa]), *Ojo-Ogun* ("Day of Ogun" [the god of iron]), *Ojo-Shango* ("Day of Shango" [the god of thunder]), *Ojo-Obatala* ("Obatala's Day"). A holy day is called *ose*, and because each holy day recurs weekly,

the first day as a general sabbath. Each of the four other days is a day of rest for the followers of the god to which it is dedicated, and for them only.[57] For the adherents of a god to violate the day sacred to him is a serious offense, punishable with a fine, and in former days, with death. The general notion is that if the honor of the god be not vindicated by his followers all will suffer for the neglect. "The sabbath-breaker is, in fact, killed by the other worshippers of the god from motives of self-protection."[58]

The Tshi-speaking peoples also illustrate the custom of appropriating particular days of the week to the god worshipped by different classes of the community. Thus, whilst the first day of the Tshi week is a general sabbath, *bna-da,* the second day, is the fisherman's holiday. Its observance is now accounted for by a tradition that the first fisherman, named Kwegia, chose Tuesday for a day of rest; but the real reason according to Ellis is that in times past Tuesday was the day sacred to the god of the sea, for it is now the day commonly sacred to the majority of the existing sea deities. Any fisherman who violated this rule was fined, and his fish were cast into the sea. In the old days he would have been put to death. Of late years the spread of Christianity and scepticism has caused this observance of Tuesday as a rest day to fall into disuse.[59] The Tshi likewise ob-

ose has come also to mean the week of five days. See also, R. E. Dennett, *Nigerian Studies,* London, 1910, pp. 77 *sqq.,* who makes the Yoruba week consist of four days with Shango's Day "as a Sunday."

[57] Ellis, *Yoruba-Speaking Peoples,* London, 1894, p. 145. Among the Malagasy, before the destruction of idolatry at Imérina in 1869, each idol had a sacred day when those who were its special votaries abstained from work (James Sibree, *The Great African Island,* London, 1880, p. 281; *idem,* in *Folk-Lore Record,* 1879, ii. 32).

[58] Ellis, *Yoruba-Speaking Peoples,* 149.

[59] Ellis, *Tshi-Speaking Peoples,* 220 *sq.; idem, Yoruba-Speaking Peoples,* 149. Beecham declares that were the fishermen to go out to sea on this day, "the fetish would be angry, and spoil their fishing" (*Ashantee and the Gold Coast,* London, 1841, p. 186). *Cf.* also Bosman, "Guinea," in Pinkerton's, *Voyages and Travels,* xvi. 402 *sq.;* Mary H. Kingsley, *West African Studies,*[2] London, 1901, p. 145.

serve *fi-da,* the fifth day of the week, as the regular rest day for farmers.[60] In Coomassie, the Ashanti capital, no agricultural work may be done on Thursday.[61]

Three of the peoples studied by Ellis divide the month into weeks and observe one day of each week as a general day of rest. Thus the Tshi keep *dyo-da,* the first day of their seven-day week, as a sabbath.[62] The Ga-speaking tribes, who also employ the hebdomadal cycle, observe the first day as a communal sabbath. Its name, *dsu,* means "purification," a term which seems also to have been used as a title of the moon.[63] The Yorubas on the Slave Coast have a week of five days. *Ako-ojo,* the first day of the week, "is a sabbath, or day of general rest. It is considered unlucky, and no business of importance is ever undertaken on it. On this day all the temples are swept out, and water, for the use of the gods, is brought in procession."[64]

[60] Ellis, *Tshi-Speaking Peoples,* 220.

[61] *Ibid.,* 304.

[62] *Ibid.,* 220. Each of the days has its appropriate name derived from that of a distinguished chief, semi-deified after death (*ibid.,* 218 *sq.*). The suffix *da,* attached to all the weekday names comes from the verb *da* "to sleep," though *da* or *eda* has now acquired the meaning of "day." A week is *da-pen,* "a set of days" or *nuaotyo,* "eight days," because the week contains seven days and part of an eighth (*nua* = the plural of *da*).

[63] Ellis, *Yoruba-Speaking Peoples,* 147. An old writer, whose observations were confined to Accra on the Gold Coast, speaks of *haughbah* as one of the two sacred days of the week. It is compulsory on all ranks and sexes, but is especially observed by women. "Under the supposition that some malign potency pervades the surrounding country on this day, more particularly directed against the pregnant women, their daily avocations are restricted within the walls of their domiciles, no egress being tolerated either for the purposes of travelling or other exterior occupations. Not many people therefore presume to violate these injunctions by issuing forth early in the forenoon, and none resort to their familiar haunts in the markets or public thoroughfares, until the prohibition has been withdrawn by the well-known sign of a declining sun" (Daniell, in *Journal of the Ethnological Society,* 1856, iv. 23).

[64] Ellis, *op. cit.,* 145. The market is held weekly, that is, every fifth day, but never on the *ako-ojo* (*ibid.,* 149). This is the only instance with which I am familiar where the market day does not coincide with the general day of rest.

The west African evidence which Ellis has gathered would seem to indicate that, aside from the inter-tribal borrowing which has doubtless taken place, certain days are regularly observed as periods of rest by the community generally, or by special classes of individuals. The extensive development of the sabbatarian regulations may be reasonably associated with the extraordinary tangle of general, local and tutelary deities of all sorts found in this part of Africa. If the custom had arisen of honoring a tribal god with a day held generally sacred, it would be but a step to extend the practice to the divinities worshipped by individual families or by particular sections of the community.

The observance of a general day of rest by the Yorubas, Tshis, and other peoples, is undoubtedly a native institution. Lieutenant-Colonel Ellis, who was much impressed with its resemblance to the Hebrew Sabbath, argues that both were originally lunar festivals, connected with moon worship and celebrated on the first day of the new moon. "This holy day, before the invention of weeks, recurred monthly, but after the lunar month was subdivided, it recurred weekly, and was held on the first day of the week. . . . That the Jewish Sabbath should come to be called the seventh day, though originally the day of the new moon, and consequently the first day of the lunar month, can be readily understood. When a holy day recurs every seventh day, the day on which it is held is naturally called the seventh day. Thus the Yoruba sabbath, which occurs every fifth day, is called the fifth day of the week, though the meaning of the name *ako-ojo* is first day."[65] This theory of a common origin for both the west African and the Hebrew rest days fails to elucidate satisfactorily the taboos observed in each instance; and the explanation of the "seventh day," for reasons to be stated later, cannot be accepted. At the same time I am not disposed wholly to reject the hypothesis advanced by Ellis for the origin of the weekly holy day in west Africa. In this region, as

[65] Ellis, *Yoruba-Speaking Peoples*, 146, 148. The author presented his arguments more fully in an article, "On the Origin of Weeks and Sabbaths," *Popular Science Monthly*, 1895, xlvi. 329–43.

elsewhere in the African area, there is a common practice of observing new moon as a festival accompanied by cessation of labor (*infra*). The possibility of a purely utilitarian origin for the institution must also be kept in mind. Here, as in other instances, we may look for fuller knowledge to clear up many puzzling problems.

c. Quasi-*holy Days in Archaic Civilizations*

It is curious to discover in a far distant quarter of the world a rest day observed which presents some similarity to the west African customs. The ancient Peruvians had a lunar month, divided, like that of the Greeks, into three decades. If we may trust an old authority, each of these periods closed with a holiday and season of rest. The institution was attributed to the Apu-Ccapac-Inca, whose beneficent activities gained for him the appellation of Pachacutec, "Reformer of the World."[66] To Garcilasso de la Vega, this Peruvian sabbath appeared to be solely devised for utilitarian ends. "In order that labor might not be so continuous as to become oppressive, the Ynca ordained that there should be three holidays every month, in which the people should divert themselves with various games. He also commanded that there should be three fairs every month, when the laborers in the field should come to market and hear anything that the Ynca or his Council might have ordained. They called these assemblies *Catu,* and they took place on the holidays."[67] Possibly the observance of a rest day was here once connected with a lunar festival and the accompanying abstinence at such a time. This explanation will scarcely apply, however, to the old Mexican custom of holding a public market or fair at the close of each five-day period, four of which formed the Aztec "month."[68] In this instance there could have been no

[66] Perhaps "Reformer of the Calendar," from *pacha,* time, and *cutina,* overturn or reform.

[67] Garcilasso, bk. vi., chap. xxxv.; C. R. Markham, *First Part of the Royal Commentaries of the Yncas,* London, 1871, ii. 206.

[68] Sahagun, *Histoire générale* (transl. Jourdanet and Siméon, Paris,

connection with the moon, the Mexican months being purely artificial divisions of the solar year.[69]

The Roman nundinal period, an eight-day week, closed (or began) with a market day not unlike the Peruvian and Mexican institutions. The country folk, having labored for seven days in the fields, came to the towns on the eighth day. This was called ***nundinae,*** the ninth (the eighth day by the ordinary inclusive reckoning being counted as the ninth), and was employed as a market day when peasants and townsmen exchanged their products. The ***nundinae,*** however, was more than a market-day: at this time ordinary occupations were interrupted; school-children enjoyed a holiday; and banquets of more than the usual sumptuousness celebrated the festive occasion.

The origin and early development of the ***nundinae*** are veiled in obscurity. In the classical age it was even disputed whether the nundinal day began or ended a week; clearly, however, it marked the separation of the weeks. The institution enjoyed a high antiquity,[70] tradition ascribing it now to the Etruscans, now to Romulus or to Servius Tullius. In historic times the ***nundinae*** present themselves as the rest-days and market-days of a laborious agricultural people; it may, indeed, be questioned whether they were ever anything else. Yet even classical writers were uncertain whether the ***nundinae*** were properly included among the ferial days, that is, among the days that belonged to the gods and not to men (*supra*). In Varro's time the pontiffs held that they were not *feriatae,* but many writers, cited by Macrobius,[71] maintained the contrary belief. Though not public festivals the state so far recognized the ***nundinae*** by dedicating

1880, pp. lxxiii, 290 *sq.*). Father Sahagun speaks of these *quintaines* as so-called "weeks." See also Payne, *History of the New World Called America,* Oxford, 1899, ii. 359.

[69] However, the Mexicans are known to have once held a market at the end of each thirteen-day period, the latter being apparently regarded as a division of the lunar month (*infra*).

[70] Dionysius Halicarn. *Antiquit. Roman.,* ii. 28.

[71] *Saturnalia,* i. 16, 30.

them to Saturn[72] or to Jupiter, and by requiring the Flaminica Dialis to sacrifice a bull to Jupiter on their occurrence. These regulations bear an archaic stamp, suggesting that at a remote period the *nundinae* may have been *quasi*-holy days, more or less resembling those which have been found in other parts of the world.[73]

[72] Plutarch, *Quaestiones Romanae*, 42.

[73] I have elsewhere (*infra*) advanced reasons for believing that the nundinal cycle, in historic times a periodic week, running continuously through the months and years, was originally a lunar week which arose from the quartering of the synodic month. From this the conjecture is possible that the nundinal day was originally unfit for labor because of lunar taboos which attached to it. Certain considerations give more or less plausibility to such an hypothesis. If the *nundinae* were once *feriae*, then they were absolutely *nefastae*, unsuitable, that is, for public business and judicial transactions. The Hortensian law in 287 B. C. made them *dies fastae* (*ut fastae essent nundinae*, Macrobius, *Sat.* i. 16. *Cf.* Pliny, *Hist. nat.*, xviii. 13; Madvig, *Verfassung und Verwaltung d. röm. Staates*, i. 254 *n*; Daremberg and Saglio, *op. cit.*, iii. 176, iv. 1047 *sq.*). We might therefore see in this law, besides its avowed political purpose, the desire to free the nundinal day from irksome restrictions which had previously characterized it. But such an interpretation is open to serious criticism. It seems probable that at least from the middle of the fifth century B. C., the nundinal days could be used for the settlement of legal business as is indicated by a passage in the Twelve Tables—*Tertiis nundinis partis secanto*, "On the third market-day, the creditors shall make a division of the property" (*Tabula*, iii. 6, in Gellius, xx. 1, 49). Some authorities hold that there is also reason for believing that until the Hortensian law, meetings of the public assemblies might be held on the nundinal day. On this view the *lex Hortensia* made the nundinal days *dies fastae non comitiales*, that is, forbade comitial meetings on these dates though allowing judicial business to be done thereon. The peasants who came into the city to use the markets were thus given an opportunity to settle their lawsuits without being engrossed by the duties of voting for magistrates. (For this explanation see G. W. Botsford, *Roman Assemblies*, New York, 1909, pp. 139, 315, 471; Marquardt-Wissowa, *Römische Staatsverwaltung*, iii.[2] 290). In the presence of the conflicting testimony of the classical writers the precise nature of the *nundinae* and of the legislation affecting them, becomes a matter difficult to make out. The subject would repay exhaustive investigation. For several references in the above note I am indebted to my colleague, Prof. F. W. Sanford. On the *nundinae*, gener-

The nundinal period and *nundinae* present such close analogies to the Jewish seven-day week and the Sabbath that it becomes scarcely surprising to find the Roman institution contributing to the development of the Christian Sunday. The earliest Sunday law is the famous constitution of Constantine (321 A.D.) enacting that all courts of justice, inhabitants of towns, and workshops were to be at rest on Sunday (*venerabili die Solis*). Markets continued to be held on Sunday and indispensable agricultural work was to be permitted, "since it so frequently happens that no other day is so appropriate for the sowing of grain or the planting of vines."[74] It is highly doubtful whether this legislation of Constantine had any relation to Christianity; at any rate, as was acknowledged by a candid historian, the rescript commanding the observance of Sunday contains no allusion to its peculiar sanctity as a Christian institution.[75] It would rather appear that the emperor were only adding the day of the sun, the worship of which was then firmly established in the empire, to the other ferial days of the Roman calendar.[76] With the final victory of Christianity over paganism the old *feriae* and the *nundinae* were abolished,[77] Sunday, together with the Christian festivals, being gradually substituted in their place.

ally, see Besnier, in Daremberg and Saglio, *Dictionnaire des antiquités grecques et romaines,* vii. 120–22; Marindin, in Smith, Wayte, and Marindin, *Dictionary of Greek and Roman Antiquities,*[3] ii. 251 *sq.*

[74] *Codex Justinianus,* bk. iii., tit. 12 (*De Feriis*).

[75] H. H. Milman, *History of Christianity,* New York, 1870, ii. 296.

[76] To the spread of Oriental solar worship in the empire from the second to the fourth century must be also attributed the substitution of *dies solis* for *dies Saturni* as the first day of the planetary week. *Cf.* Gundermann, in *Zeitschrift für deutsche Wortforschung,* 1901, i. 180 *sq.*).

[77] The date of the obsolescence of the *nundinae* is not definitely known; the calendar of Philocalus (354 A. D.) indicates that they were then still observed at Rome. The days of the planetary week are marked by the letters A–G, which side by side have the old nundinal letters A–H. This had probably become a feature of the State calendar since the Sunday legislation of Constantine (Carleton, in Hastings, *Encyclopaedia of Religion and Ethics,* iii. 84).

IV. PERIODS OF ABSTINENCE CONNECTED WITH LUNAR PHENOMENA

10. SUPERSTITIONS RELATING TO THE MOON

There is good reason for believing that among many primitive peoples the moon rather than the sun, the planets, or any of the constellations, first excited the imagination and aroused feelings of superstitious awe or religious veneration. The worship of the moon is widespread;[1] and in various mythologies that luminary, often conceived as masculine, plays the most important part among the heavenly bodies.[2] "When challenged to defend their peculiar religious system by the sun worshippers of the sierra, the Indians of Pacasmayu were at no loss for arguments. The moon, they contended, must necessarily be more powerful than the sun, because the latter only shone by day, while the former shone not only by night, but in the daytime also; the moon, moreover, sometimes eclipsed the sun, but the sun never eclipsed the moon. When the moon disappeared in the interval between two lunations, it was supposed that he had gone to the other world to inflict punishment on the wicked."[3]

But there are other reasons which led early philosophers to ascribe a special importance to the moon. Sometimes the lunar rays are considered positively deleterious, especially for little children. Greek nurses, for example, took special pains never to show their charges to the moon.[4] Some Brazilian Indians believe that the moon makes children ill. Immediately after delivery mothers will hide themselves with their infants in the thickest

[1] For many illustrations of moon-worship among the Greeks see W. H. Roscher, *Über Selene und Verwandtes*, Leipzig, 1890, pp. 1–11; for some illustrations from non-Hellenic peoples in antiquity, *idem*, 12–16, and *Nachträge*, Leipzig, 1895, pp. 1–19.

[2] A. Réville, *Les religions des peuples non-civilisés*, Paris, 1883, ii. 226; D. G. Brinton, *Religions of Primitive Peoples*, New York, 1897, pp. 139 *sq.*; E. J. Payne, *History of the New World Called America*, Oxford, 1892, i. 547 *sqq.*; Frazer, *Adonis, Attis, Osiris*,[2] 366 *sq.*

[3] Payne, *op. cit.*, i. 550.

[4] Plutarch, *Quaestiones conviviales*, iv. 10, 3, 7; Frazer, *op. cit.*, 376.

part of the forest to avoid the lunar rays.[5] Moonshine may also be considered injurious for adults. Certain Queensland aborigines will not stare long at the moon, for by doing so a heavy rain is likely to result.[6] When an English traveller in Arabia was noticed gazing at the clear beauty of the moon the Bedouins said: "Look not so fixedly on him; it is not wholesome."[7] Possibly the same idea found expression in one of the most beautiful of the *Psalms:* "The sun shall not smite thee by day, nor the moon by night."[8] The well-known fancy attributing lunacy to the rays of the moon is sufficiently illustrated by two passages in the New Testament where epilepsy is regarded as caused by the moon.[9]

Some primitive folk have apparently noticed that monthly periodicity belongs to women and moon alike, and joining these observations, have supposed that the lunar changes cause menstruation.[10] Such beliefs were also held in classical antiquity.[11] The influence of the moon on the tides, recognized by so primi-

[5] Spix and Martius, *Reise in Brasilien,* i. 381, iii. 1186. On the other hand, children of the Bageshu, a Bantu race of British East Africa, are expected to take part in new-moon dances, since it is believed that they derive benefit from the moon (Roscoe, in *Journal of the Royal Anthropological Institute,* 1909, xxxix. 193).

[6] W. E. Roth, *North Queensland Ethnography, Bulletin* no. 5, Brisbane, 1903, p. 7.

[7] C. M. Doughty, *Travels in Arabia Deserta,* Cambridge, 1888, i. 444.

[8] *Psalms,* cxxi. 6. This passage has been very unsatisfactorily explained as a reference to the blinding that results from sleeping in the moonlight with uncovered face. The meaning of another Biblical passage (*Hosea,* v. 7) is most obscure.

[9] *Matthew,* iv. 24, xvii. 15. The Greek verb used here is σεληνιάζομαι.

[10] Beardmore, in *Journal of the Anthropological Institute,* 1890, xix. 460 (British New Guinea); Seligmann, in *Reports of the Cambridge Anthropological Expedition to Torres Straits,* v. 206. At Sabai and Yam the word for moon, *ganumi,* may be used instead of *nanamud,* the proper word for menstrual blood (*ibid.*). The Greenlanders believe the moon, conceived as a masculine divinity, to possess the power of impregnation; young girls as a consequence are afraid to look long at the luminary (Hans Egede, *Description of Greenland,* London, 1845, p. 209).

[11] Roscher, *op. cit.,* 55–61; *idem, Ausführliches Lexikon der gricchischen und römischen Mythologie, s. v.* "Mondgöttin," cols. 3150 *sqq.*

tive a people as the Andaman Islanders, and at the other end of the scale by the Babylonians, furnishes another element of mystery in the lunar phenomena.[12] That changes in the moon are associated with weather changes as cause and effect is an ancient superstition not yet wholly obsolete in rural communities.[13]

Comparative studies have shown how very general is the belief that the moon exerts great influence on growth, particularly on the growth of vegetation and on all human life and activity.[14] For this opinion there appear to have been two principal causes. Observation showed that moisture in the air and soil are favorable to organic growth, and further that atmospheric moisture is greater at night than in the day. It was reasonable to suppose the moon itself the source of dew and moisture, especially when it was also noticed that the dew is heaviest on cloudless nights. These beliefs were entertained by the ancients who attributed heat to the sun, but moisture to the moon.[15]

Another fallacy has had an even greater part in generating these lunar fancies. The apparent growth of the moon in the former half of each lunation is associated with the ripening of plants and fruits, the increase of animals, and hence with the prosperous issue of human undertakings. From this doctrine of lunar sympathy have arisen those numerous rules for the guidance of shepherds and husbandmen which had a wide prevalence in

[12] Man, in *Journal of the Anthropological Institute,* 1883, xii. 337; M. Jastrow, *Religion of Babylonia and Assyria,* Boston, 1898, p. 358.

[13] Hazen, "The Origin and Value of Weather Lore," *Journal of American Folk-Lore,* 1900, xiii. 191–98; E. G. Dexter, *Weather Influences,* New York, 1904, pp. 10–26.

[14] Payne, *op. cit.,* i. 547 *sq.;* Tylor, *Primitive Culture,*[4] i. 130; W. G. Black, *Folk-Medicine,* London, 1883, pp. 124 *sqq.*

[15] Roscher, *Über Selene und Verwandtes,* 49 *sqq.,* 61–67. The New Zealanders believed that it was in the night that everything grew (R. Taylor, *Te Ika a Maui,* London, 1855, p. 175). The single Old Testament passage which may possibly embody a like conception is *Deuteronomy,* xxxiii. 14: "and for the precious things put forth by the moon." But the text is almost certainly corrupt.

ancient times and still survive with almost undiminished vigor amongst the superstitious classes of to-day.[16]

The doctrine of lunar sympathy, by a natural extension, may also account for the common belief that "the same things which grow with the waxing, dwindle with the waning moon,"[17] and therefore that all business done in the latter half of a lunation is doomed to failure. Thus the Todas appear to regard the first half of the month as the most auspicious for their numerous ceremonies. Usually the first appropriate day of the week after the new moon is the day for nearly every Toda rite. "I met with no case," says Mr. Rivers, "in which any ceremony was appointed for the period of the full moon or for the second half of the moon's period."[18] The Andaman Islanders abstain from work during the first few evenings of the third quarter of the moon.[19] The Buriats are said never to undertake anything of importance between the full and the new moon.[20] The Mandingoes of Senegambia, who paid great attention to the changes of the moon, thought it "very unlucky to begin a journey or any other work of consequence in the last quarter.[21] The Hovas and other tribes of Madagascar regard the waning of the moon as "an unfavorable time for any important undertaking."[22] Similar beliefs were held by the early Germans who, according to Caesar, despaired of victory if they engaged in battle before the new moon.[23] Tacitus, with fuller knowledge, declares that the Germans considered the new and the full moon as the

[16] For many illustrations see Frazer, *Adonis, Attis, Osiris,*[2] 361 *sqq.*, 369 *sq.*

[17] Aulus Gellius, *Noctes Atticae,* xx. 8.

[18] *The Todas,* 411.

[19] Man, in *Journal of the Anthropological Institute,* 1883, xii. 152.

[20] Peter Dobell, *Travels in Kamtchatka and Siberia,* London, 1830, ii. 16.

[21] M. Park, "Travels in the Interior Districts of Africa," in Pinkerton's *Voyages and Travels,* xvi. 875.

[22] J. Sibree, "Malagasy Folk-Lore and Popular Superstitions," *Folk-Lore Record,* 1879, ii. 32.

[23] *De bello Gallico,* i. 50.

most auspicious season for beginning any enterprise.[24] A like superstition was that of the Scottish Highlanders, to whom the moon in her increase, full growth, and wane were "the emblems of a rising, flourishing, and declining fortune. At the last period of her revolution they carefully avoid to engage in any business of importance; but the first and middle they seize with avidity, presaging the most auspicious issue of their undertakings."[25]

Eclipses of the moon are sometimes considered unfavorable for work and may also be accompanied by fasting. The time of such unnatural darkness is considered to be particularly perilous, when it is wise to avoid not only every sort of activity but also the consumption of food tainted with the infection of material evil or danger. When the Todas know that an eclipse is about to occur they abstain from food; when it is over they have a feast and eat a special food prepared on all ceremonial occasions.[26] In northern India, the time of a lunar eclipse is considered most unlucky for the commencement of any business of importance.[27] Among the Jews there are many who abstain from food on the day of an eclipse of the moon, which they regard as an evil omen.[28] An English antiquarian of the seventeenth century is authority for the injunction not to undertake any important business during an eclipse.[29]

Among various peoples it is thought that during the period of her invisibility the moon descends to the underworld. Such

[24] *Germania,* 11. The well-known rule of the Spartans which forbade them to lead out their armies before the full moon (Herodotus, vi. 106; Pausanias, i. 28, 4) was a related though not a precisely similar superstition.

[25] Frazer, *op. cit.,* p. 369; citing (Sir) John Sinclair's *Statistical Account of Scotland,* xii. 457.

[26] Rivers, *op. cit.,* 592, 580.

[27] W. Crooke, *Popular Religion and Folk-Lore of Northern India,*[2] Westminster, 1896, i. 23.

[28] J. Buxtorf, *Synagoga Judaica,* Basileae, 1680, p. 477; cited by Westermarck, *Origin and Development of the Moral Ideas,* ii. 310.

[29] John Aubrey, *Remaines of Gentilisme and Judaisme,* edited by J. Britten, London, 1881, p. 85.

notions have played their part in generating ideas of tabooed or unlucky days. Thus the Akikuyu of British East Africa, who regard the moon as the sun's wife, believe that when the moon comes to maturity the sun fights with her and kills her. While she is "dead," as the natives say, no journeys are undertaken, no sacrifices offered, no sheep killed. It is further considered that goats and sheep will not bear on the day after the disappearance of the moon.[30] Some tribes of equatorial Africa, according to the account given by Du Chaillu, believe that the new moon is especially ill-humored and hungry on the day she emerges from darkness. "She looks down over our country," the natives declared, "and seeks whom she can devour, and we poor black men are very much afraid of her on that account, and we hide ourselves from her sight on that night." People who die between new and full moon are said to be those whom the new moon saw at this fateful time, in spite of all the precautions they took.[31] The Canarese of Hyderabad and Mysore do not work in the fields on the last day of the month. If a child is born on the day before the new moon this is a sign that some one in the family will die. If a cow or a buffalo has a calf at such a time, it must be sold. On the evening before new moon or at new moon no one may eat cooked food. The new moon is consecrated to the dead.[32] The ancient Greeks paid special regard to the period, reckoned at three days, between the disappearance of the old and the reappearance of the new moon. At Athens these days were called ἀσέληνοι because the moonlight was extinguished at this time. They were classed with the other ἀποφράδες ἡμέραι or unfavorable days (*supra*), when no meetings of the senate were held, when the tribunals of justice did not render decisions, and when private individuals abstained from all

[30] W. S. and Katherine Routledge, *With a Prehistoric People,* London, 1910, p. 284.

[31] P. B. Du Chaillu, *In African Forest and Jungle,* New York, 1903, pp. 96 *sq.* For the Abyssinian beliefs see Littmann, in *Archiv für Religionswissenschaft,* 1908, xi. 314 *sq.* For the Arab superstitions see Goldziher, *ibid.,* 1910, xiii. 44 *n.*[4]

[32] Gengnagel, in *Ausland,* 1891, pp. 871 *sq.*

acts which should be accomplished only under the most favorable auspices. During the ἀσέληνοι it was necessary to sacrifice to the underworld gods in order to avoid their anger. Appropriately, these days were consecrated to chthonic deities and to the dead.[33] Similar beliefs appear to have survived in the still current idea that the three days before the new moon are especially unlucky and apt to be attended by storms and winds.[34]

The astrological conceptions which have centered about the moon stations afford an interesting study in the diffusion of superstition. The old Babylonian astronomers, who watched night by night the course of the moon through the heavens, associated that luminary with various prominent stars and constellations, drawing therefrom various forecasts for each day in the tropical or periodic month.[35] The fact is well known that Babylonian astrology and astronomy—for the two were scarcely distinguishable in the earlier period—exerted great influence on the neighboring peoples of Asia, and hence it has been argued that the lunar mansions, usually twenty-seven or twenty-eight in number, which we find among the Hindus and Chinese, and the augural calendars connected therewith, were derived ultimately from Babylonia.[36] It is probably true that the Arabian moon stations mentioned in the Koran[37] reach back to the same source. The

[33] E. Rohde, *Psyche*,[3] Freiburg-i-B., 1898, i. 235, 269; Daremberg and Saglio, *Dictionnaire des antiquités grecques et romaines*, i. 174, 322. In Greek fancy Selene was believed to descend to the lower world and the abode of shades; hence the goddess came to be identified with Persephone (Roscher, *Über Selene und Verwandtes*, 46 *sqq.*).

[34] Hazen, *op. cit.*, 192.

[35] Mean length 27. 321 days.

[36] Lehmann, in *Abhandl. Berliner Gesells. f. Anthrop., Ethnol. u. Urgesch.*, 1895. p. 435 *n*[2]; F. K. Ginzel, "Die astronomischen Kenntnisse der Babylonier," *Klio*, 1901, i. 12 *sqq.*; L. H. Gray, "The Parsī-Persian Burj-Nāmah, or Book of Omens from the Moon," *Journal of the American Oriental Society*, 1910, xxx. 337.

[37] "God hath appointed mansions for the moon" (*Sûra*, x. 5). See in general on this subject, A. de G. Motylinski, *Les mansions lunaires des Arabes*, Alger, 1899; Hommel, in *Zeitschrift der deutschen morgenländischen Gesellschaft*, 1891, pp. 592 *sqq.*

Arabs carried them to Madagascar, where they gave rise to an elaborate distinction of days lucky and unlucky. In general, some days were considered absolutely bad; others were absolutely good; others were considered indifferent. Again, some days were not regarded as good in general though still good enough for special purposes; one being excellent for a housewarming, another good for marking out the ground for a new town, still another was a lucky day to be born on, but a bad day for business. Some days had a special peculiarity of their own, thus children born on a certain day usually became dumb. The character of a day, according to the Malagasy astrologers, depended, in short, on what one of the twenty-eight lunar stations it represented.[38]

II. TABOOS OBSERVED AT CHANGES OF THE MOON

We may well believe that the different appearances of the moon were the first celestial phenomena observed with any degree of continuous attention by primitive man. Not only are the phases of the moon marked by striking variations in her form and in the amount of light she radiates, but from night to night she follows a regular path through the sky, changing her elevation above the horizon and appearing to occupy at her successive phases different quarters of the heavens. Such phenomena present elements of mystery not found in the sun's prosaic course, and help to explain why some of the lowest of existing peoples watch the succession of lunar phases with the most keen interest. The central Australians have distinct names applied to the

[38] Sibree, "Divination among the Malagasy," *Folk-Lore*, 1892, iii. 220 *sq.* It is worth noting that in Madagascar the names of the separate days in the month have been taken directly from the Arabic names for the twenty-eight lunar mansions. It thus appears that these names have both an astrological and a chronological value (Farrand, "Note sur le calendrier malgache et le *fandruana*," *Revue des études ethnographiques et sociologiques*, 1908, p. 95). Among the northern Abyssinians lucky and unlucky days are likewise determined by the lunar stations, though only six or seven are reckoned, each containing from two to seven days (Littmann, in *Archiv für Religionswissenschaft*, 1908, xi. 301 *sq.*).

new moon, half moon, full moon and last quarter.[39] The Andaman Islanders, possessing no extended enumeration, did not count the moons in the year, but nevertheless had appropriate words to designate the lunar phases.[40] The Bontoc Igorot have noted and named eight phases of the moon.[41] The natives of New Britain were close observers of the phases of the moon (*kalang*) and had separate terms for them.[42] A further development may be traced in the Polynesian area where, as in Hawaii, the Society Islands, and New Zealand, for every night in the month there were distinct names derived from the various aspects of the moon according to her age.[43] Among the Nandi of British East Africa, all the nights of the lunar month are likewise described by the varying aspects of the moon.[44] The Bavili of French Congo even appoint special individuals to observe the

[39] Spencer and Gillen, *Native Tribes of Central Australia*, London, 1897, p. 565.

[40] Man, in *Journal of the Anthropological Institute*, 1883, xii. 337.

[41] Jenks, in *Ethnological Survey Publications*, Manila, 1905, i. 219.

[42] G. Brown, *Melanesians and Polynesians*, London, 1910, p. 332. *Cf.* Somerville, in *Journal of the Anthropological Institute*, 1897, xxvi. 404 (Solomon islanders).

[43] The Maori, for instance, counted twenty-eight moon "nights," which show how closely that luminary was observed: 1. *noni hope*, the moon is in the *Reinga* or underworld; 4. *he oho ata*, the moon is visible; 5. *ouenuku*, it begins to rise a little way; 6. *maweti*, it rises still higher; 14. *he atua*, full; 19. *he ohika*, the moon begins to wane; 24. *tanagaroa a roto*, it sinks into the sea; 28. *he o mutu*, it disappears (Taylor, *Te Ika a Maui*, 177). To the Society Islanders the fifteenth day was *omarae*, or the moon with a round and full face; the thirtieth day, *oterieo*, was the time when the moon dies or is changed (Ellis, *Polynesian Researches*, i. 87 *sq.*). In the Hervey Group several of the moon nights were sacred to the gods. The twenty-eighth day was called *mauri*—ghost; the twenty-ninth, *omutu*—ended; the thirtieth, *otire o avaiki*—lost in the depths of *Avaiki* or Hades (W. W. Gill, *Myths and Songs from the South Pacific*, London, 1876, p. 318). Among the Caroline Islands (Yap, Lamotrek, Ponape, Uleai) the successive days of the moon are given names which indicate her age (F. W. Christian, *Caroline Islands*, London, 1899, pp. 387 *sq.*, 392–99).

[44] Hollis, *op. cit.*, 95 *sq.*

changes of the moon.[45] The Hottentots of South Africa have separate names for all the lunar phases.[46]

A survey of the anthropological evidence appears to indicate, as might indeed be expected, that of the four lunar phases it is particularly the new moon which awakens interest and attention. The first appearance of that luminary in the western sky after sunset is often hailed with various ceremonial observances. Professor Frazer suggests that in many cases such rites have a magical aspect, the new moon, with its promise of growth and increase, being greeted with ceremonies intended to renew and strengthen, by means of sympathetic magic, the life of man.[47] He cites, among others, two interesting customs found in the New World. The Indians of the Ucayli river in Peru are said to greet the appearance of the new moon with great joy. They make long speeches to her, accompanied with vehement gesticulations, imploring her protection and begging that she invigorate their bodies.[48] Certain tribes of southern California, afterwards gathered into the Mission San Juan Capistrano, celebrated the new moon with dances, saying, "As the moon dieth and cometh to life again, so we also having to die, will again live."[49] An old traveller recites how at the appearance of every new moon the Congo negroes "fall on their knees, or else cry out, standing and clapping their hands, 'So may I renew my life as thou art renewed.'" But if the sky was clouded, they did nothing, considering that the moon had lost its virtue.[50] Of the Mandingoes

[45] Dennett, *op. cit.*, 86.

[46] L. Schultze, *Aus Namaland und Kalahari*, Jena, 1907, p. 370.

[47] *Adonis, Attis, Osiris*,[2] 370 *sqq.*

[48] W. Smythe and F. Lowe, *Narrative of a Journey from Lima to Para*, London, 1836, p. 230. So the ancient Peruvians, according to Father Acosta, assembled on the first day of the tenth moon "before the rising thereof, and in seeing it they cryed aloude, carrying torches in their handes and saying, 'Let all harme goe away,' striking one another with their torches" (*The Natural and Moral History of the Indies*, edited by C. R. Markham, London, 1880, ii. 575 *sq.*).

[49] Father G. Boscana, "Chinegchinich," in *Life in California by an American*, New York, 1846, pp. 298 *sq.*

[50] Merolla, "Voyage to Congo" in Pinkerton's *Voyages and Travels*, xvi. 273.

it is said that on the first appearance of the new moon, "which they look upon to be newly created, they say a short prayer."[51] Some of the foregoing examples may perhaps be more simply interpreted as an expression of man's delight at the reappearance of the luminary which, so generally in savage fancy, is supposed to descend to the underworld during the interval between lunations.

Where the new moon is festively observed it often happens that a similar rite occurs at full moon; and much less commonly, at each half moon. It seems idle to seek a particularistic explanation for such ceremonies. We have already noticed the sympathetic influence which the waxing and waning of the moon is supposed to exert on human activities. Furthermore, it has been shown that the appearance of the new moon is thought to be pregnant with interest and importance for the life of man. These ideas of lunar influence would naturally be extended to the full moon, and later, in some instances, to the half moons, as marking the most prominent stages in a lunation. The feelings of fear, of curiosity, of awe and veneration excited by the moon and concentrated on her phases, afford a sufficient reason for their being regarded as critical times, to be marked, as the following examples show, not only by religious exercises, but also by fasting and the cessation of all normal occupations.[52]

[51] Mungo Park, "Travels in the Interior Districts of Africa," in Pinkerton's *Voyages and Travels*, xvi. 875.

[52] The vice of seeking a particularistic explanation for widespread social phenomena is illustrated by Nielsen, who, with misdirected ingenuity, has argued that the early Semites founded their sabbaths on the observation that the moon (conceived as a divinity) rests four times in a lunation. Days on which the deity rested were to be likewise observed by his worshippers as days of rest. (D. Nielsen, *Die altarabische Mondreligion und die mosaische Überlieferung*, Strassburg, 1904, pp. 63 *sqq.*) It is true that the moon looks full for a day or two before and for a day or two after she is full; similarly the changes in her form at the beginning of a lunation are scarcely perceptible. The moon, therefore, might be said to "rest" at these two periods. But neither astronomical science nor untutored observation lends any support to the idea that the moon "rests" at the close of each and every phase. Such an hypothesis, were it true,

In old Hawaii four periods in every month, lasting two nights and a day each, "were consecrated or made *tabu*."[53] These epochs were dedicated severally to the four great gods, *viz:* Ku, from the third to the sixth night; Hua, at full moon, including the fourteenth and fifteenth nights; Kaloa or Kanaloa, the twenty-fourth and twenty-fifth nights; Kane, the twenty-seventh and twenty-eighth nights. "During these *tabu* periods a devout king generally spent the time in the *heiau,* and no person could pass its limits on pain of death."[54] The Hawaiian evidence is a very clear indication of the practice of consecrating to particular divinities certain times as sacred, which formerly were tabooed for quite different reasons.

Among the Land Dayaks of Borneo at full moon and on the third day after it (called *bubuk*), it is thought dangerous to do any farm work, for the paddy would be devoured by blight and mildew. In some tribes the unlucky days are those of the new and full moon, and its first and third quarters.[55] With this account it is interesting to compare the statement of a native Dayak who has given us a remarkable description of the religious rites and customs observed by his people. He says: "The news of a death occurring in the neighborhood or at a distance, the time of full moon, the performance of ceremonies over the sick by the medicine man, a sacrifice to the spirits, are incidents that require all the villagers to rest from work. Likewise if some of the villagers attend a feast in a neighboring village, those that remain behind must rest from work lest they should incur the anger of

would not account for the other forms of abstinence, in addition to the cessation of labor, which occur in connection with the moon's changes. And as we shall see, the observance of lunar taboos may be quite disassociated from true moon-worship and probably long antedates the latter cult.

[53] Jarves, *op. cit.,* 83.

[54] W. D. Alexander, *Brief History of the Hawaiian People,* New York, 1891, pp. 50 *sqq.* The author's work is largely based on unpublished Hawaiian manuscripts and the early archives of the government.

[55] H. L. Roth, *Natives of Sarawak and British North Borneo,* London, 1896, i. 401.

the guardian spirits of those attending the feast."[56] That the time of full moon is a time of crisis, associated in the native mind with various other critical occasions when it is thought necessary to propitiate the spirits with abstinence, could scarcely be better illustrated than by the above quotation.

Various African peoples have similar beliefs regarding the unfavorable influence of lunar changes on human occupations. The Zulus welcome the first appearance of the new moon with demonstrations of joy, but on the day following they abstain from all labor, "thinking that if anything is sown on those days they can never reap the benefit thereof."[57] Of certain Bechuana tribes in the neighborhood of the Leeambye river, Livingstone remarks: "There is no stated day of rest in any part of this country except the day after the appearance of the new moon, and the people then refrain only from going to their gardens."[58] Among the Baganda there is great rejoicing at the appearance of the new moon. A feast for seven days takes place when no work is done. Previously, firewood and other things are gathered and stored in order that the women need not go out to gather it or do any work other than cooking.[59] In Budu, a district of Uganda, there is a curious cult of the python conducted by the members of a single clan. The sacred snake is kept in a temple where the people gather when the new moon appears to make their offerings and hold a seven days' feast. Throughout this period no work may be performed.[60] The Mendi of Sierra Leone hold a new

[56] Leo Nyuak, "Religious Rites and Customs of the Iban or Dyaks of Sarawak," translated from the Dyak by the Very Rev. Edm. Dunn, *Anthropos,* 1906, i. 410 *sq.*

[57] Frazer, *Adonis, Attis, Osiris,*[2] 364; citing Fairweather, in W. F. Owen's *Narrative of Voyages,* etc., ii. 396. *Cf.* also Dudley Kidd, *The Essential Kafir,* London, 1904, p. 110.

[58] *Missionary Travels and Researches in South Africa,* New York, 1870, p. 255. An earlier writer says of the Bechuanas generally that when the new moon appears, "all must cease from work, and keep what is called in England a holiday" (John Campbell, *Travels in South Africa,* London, 1822, ii. 205).

[59] Roscoe, in *Journal of the Anthropological Institute,* 1902, xxxii. 76.

[60] *Idem,* "Python Worship in Uganda," *Man,* 1909, ix. 88 *sqq.*

moon festival when they abstain from all work, "alleging that if they infringed this rule corn and rice would grow red, the new moon being a 'day of blood.'"[61] Various other west African sabbaths which possibly had a former connection with lunar taboos have been previously noticed (*supra*).

In modern Ceylon and India we meet occasional references to rites at new and full moon, though it is not improbable that they have come down from ancient times. Thus the Sinhalese Kandyans do not gather the paddy crop on days when changes in the moon take place. The same prohibition is observed on inauspicious days generally.[62] In northern India the appearance of the new moon is an unfavorable time for undertaking important business.[63] The Canarese, whose superstitions relating to the last day of the lunar month have already been noticed, do not plough their fields at new moon and full moon. At neither of these times are marriages permitted.[64] In Kumaon and Garhwal, however, "the eighth, eleventh, fourteenth and fifteenth lunar days, both of the increase and decrease of the moon in each month, are considered fortunate days. At the full moon in the months Asarh, Kártik, Mágh, and Vaisakh religious ceremonies are peculiarly meritorious, while on the third lunar day in Vaisakh their merit is imperishable. There are many other propitious days in the year."[65] The Badagas of the Nilgiri Hills in southeastern India consider those children as unlucky who are born on the day

[61] A. B. Ellis, *The Yoruba-Speaking Peoples*, London, 1894, p. 146.

[62] Kehelpannala, in *Journal of the Anthropological Institute*, 1896, xxv. 108. According to the same authority, abstinence from agricultural labor is also observed on days when *póya*, the Buddhist Sabbath, occurs. *Póya* means properly the dark day of the new moon (R. S. Hardy, *Manual of Budhism*,[2] London, 1880, pp. 22, 50).

[63] Crooke, *op. cit.*, i. 23.

[64] Gengnagel, in *Ausland*, 1891, p. 871 *sq.*

[65] I am indebted for this information to Dr. K. T. Waugh, now of Beloit College, Wisconsin, in a letter dated February 7, 1911. Among the Kumaon people it would seem that the changes of the moon are now considered as favorable or lucky occasions.

of the new moon, the full moon, or on three days before the full moon.[66]

Among peoples of archaic culture there are numerous illustrations of lunar festivals and of the abstinence which so generally attends them. The evidence from India is particularly instructive and deserves extended consideration. Professor Westermarck, who has given some examples of the superstition under discussion, quotes the statement in the Vishnu Purana that he who attends to secular affairs on the days of the new or the full moon goes to the Rudhirānda hell, whose wells are blood.[67] With the development of the complex Brahmanic ritual, holy and unlucky days in India became almost identical with the days when the sacred books should not be read. Thus the laws of Manu required a learned Brahman not to recite the Veda on the new moon day, nor on the fourteenth and eighth days of each half-month, nor on the full moon day. It is said that "the new-moon day destroys the teacher, the fourteenth day the pupil, the eighth and full-moon days destroy all remembrance of the Veda; let him therefore avoid reading on those days."[68] This injunction, moreover, is repeated for a great variety of other critical occasions: during a heavy thunderstorm or an eclipse; or when an earthquake occurs. A like prohibition followed after events causing pollution; a Brahman, for example, should not read the Vedas in a village through which a corpse had been taken, or near a burning-ground.[69] Some of these taboos have endured till the present time, the eighth day of each fortnight, held sacred to Durgā, being a period when no study is allowable for a pious Hindu.[70]

[66] Jagor, in *Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte,* 1876, p. 201.

[67] *Vishńu Puráńa,* translated by H. H. Wilson, London, 1840, p. 209; Westermarck, *op. cit.,* ii. 284. The modern Puranas, in their existing form, were all written after the sixth century, A. D., and hence are a relatively late production of Brahmanical thought.

[68] *Laws of Manu,* translated by G. Bühler, *Sacred Books of the East,* xxv. iv. 113 *sq.*

[69] *Ibid.,* iv. 101 *sqq.*

[70] Monier-Williams, *Brāhmanism and Hindūism,*[4] New York, 1891, p. 433.

In ancient India, the critical epochs determined by the lunar phases were marked by still other forms of abstinence. In the earliest Vedic period a custom existed of observing two sacred periods in every month, new moon and full moon, with sacrifices to the gods.[71] The simpler forms of the rite were gradually extended into an elaborate ritual. Every Brahmanical householder was required to perform two half-monthly sacrifices for a period of thirty years after he had set up a home of his own. According to some authorities these sacrifices were obligatory for the rest of his life. The ceremony usually occupied the greater part of two consecutive days. Whilst the first day was to be chiefly occupied with preparatory rites and the taking of the vow of abstinence by the sacrificer and his wife, the second day was reserved for the main performance of the ceremony.[72] The restrictions included abstention from various kinds of food and other carnal pleasures, and the observance of silence throughout the ceremonial. A difference of opinion exists as to the exact days appointed for these rites, though, clearly, they were associated with new and full moon. Some native authorities decided in favor of the last two days of each half of the lunar month; but the generality of ritualistic writers considered the first day of the half-month—that is, the first and sixteenth days of the month—to be the proper time for the second or sacrificial rite. Since it was permitted to compress the two-days' rites of the full-moon sacrifice into one single day, the conjecture is plausible that originally only one day was assigned to the two observances of abstinence and sacrifice.[73]

Durgā, a form of Pārvati, seems to have had an ancient connection with the moon.

[71] Martin Haug, *The Aitareya Brahmanam of the Rigveda,* Bombay, 1863, ii. 5; H. Zimmer, *Altindisches Leben,* Berlin, 1879, 364 *sq.;* A. Hillebrandt, *Die altindische Neu- und Vollmondsopfer,* Jena, 1880. The new-moon day was called *darśa,* the day of the full moon, *purnamāsa.*

[72] The first day was called *upavasatha,* a fasting or fast-day (*cf.* Sanskrit, *upa,* an adverbial adjunct, signifying to refrain from, abstain, hence, to fast). The second day's ceremony was known as the *darśapurnamāsa* sacrifice.

[73] Julius Eggeling, *The Satapatha-Brâhmana,* i. 1, 1, 1 *sqq.* (*Sacred*

The ritualistic requirements for this ceremony do not include the cessation of labor by the Brahmanical householder and his family. It might, therefore, be argued that the new and full moon observances were not originally dictated by a superstitious regard for the lunar phases. The fasting on the *upavasatha* day would then be merely a rite preliminary to the sacrifice on the following day; the association of the two ceremonies with new and full moon would mean only that these two divisions of a lunar month were chosen as convenient and conspicuous periods for the performance of religious duties. That many so-called lunar festivals have no connection with such lunar superstitions as have been described, is a proposition so obvious as to require no demonstration. To the present instance, however, these considerations can scarcely apply. It is well known that the *upavasatha* was a fast preparatory to the offering of the "moon plant," the intoxicating *soma,* whose personification and deification are assigned to a date earlier than that of the Vedas themselves. In the Rig Veda *soma* is occasionally identified with the moon; according to some authorities *soma,* everywhere in the Rig Veda, means the moon. During post-Vedic times, in any case, the moon-god was regularly conceived as represented on earth by the mysterious *soma* plant.[74] During this later period the regulations previously cited for non-reading days to be observed by pious Brahmans show clearly that the moon's changes were held in superstitious regard as times peculiarly dangerous or polluting; such beliefs, leading to the cessation of labor at new and full moon, are even now current in various parts of India (*supra*).

The Buddhist sabbath or *uposatha* falls on the day of the full

Books of the East, xii. 1 *sq., cf.,* also 374 *sq.*). In the Institutes of Vishnu (xlvii. 3) the new moon is a penitential fast day (*S. B. E.* vii. 152). Various lunar penances are described in *Manu,* xi. 217 *sqq.* For modern Brahmans the new and full moon days are regularly fast days (Dubois, *Hindu Manners, Customs, and Cermonies,*[3] Oxford, 1906, p. 270).

[74] A. Hillebrandt, *Vedische Mythologie,* Breslau, 1891, i. 267 *sqq.,* 336 *sqq.;* E. W. Hopkins, *Religions of India,* Boston, 1895, pp. 112 *sqq. Cf.* also, *Sacred Books of the East,* xii. 176 *sqq.* (*Satapatha Brâhmana,* i. 6, 4, 5 *sqq.*).

moon, on the day when there is no moon, and on the two days which are eighth from the full and new moon. On these days selling and buying, work and business, hunting and fishing, are forbidden, and all schools and law-courts are closed. The *uposatha* has always been a fast-day from sunrise to sunset; hence, as no cooking is allowed to taint its sanctity, the Buddhist prepares his evening meal in the early morning before the sun appears.[75]

Although Buddhism died out in India, its ancient home, Buddhist missionaries from Ceylon carried the new faith to Burma in the fifth century A. D., whence it afterwards penetrated to Siam. In both these lands the *uposatha* is still observed. According to an old traveller, the "eighth day of the increasing moon, the fifteenth or full moon, the eighth of the decreasing moon, and the last day of the moon, are religiously observed by Birmans as sacred festivals. On these hebdominal (*sic*) holidays no public business is transacted in the Rhoom: mercantile dealings are suspended; handicraft is forbidden; and the strictly pious take no sustenance between the rising and the setting of the sun; but the latter instance of self-denial is not very common, and, as I understood, is rarely practiced, except in the metropolis, where the appearance of sanctity is sometimes assumed as a ladder by which the crafty attempt to climb to promotion."[76] The Siamese sabbath was also an institution introduced by Buddhist missionaries. "Their Sunday, which they call *vampra,* is always on the fourth day of the moon; in each month they have two grand ones, at the

[75] H. Kern, *Der Buddhismus,* Leipzig, 1884, ii. 258; R. C. Childers, *Dictionary of the Pali Language,* London, 1875, p. 535. In Ceylon, the dark day of new moon is *póya* (*supra*); full moon, *paholawaka;* and the eighth day after new and full moon, *atawaka* (R. S. Hardy, *Manual of Budhism,*[2] London, 1880, pp. 22, 50, 52).

[76] M. Syme, "Embassy to Ava," London, 1800, in Pinkerton's *Voyages and Travels,* ix. 507 *sq.* These "duty days" have been sympathetically described by a recent authority who notes that the second and fourth days, that is, those of full moon and new moon, are the more sacred. The passage of the holy day into the holiday is well illustrated by these Burmese sabbaths. See Shway Yoe [Sir J. G. Scott], *The Burman: his Life and Notions,*[2] London, 1910, pp. 217 *sqq.*

new and full moon, and two less solemn, on the seventh and twenty-first. This day does not exempt them from labor, only fishing is forbidden them; and those who transgress this prohibition pay a fine and are thrown into prison, for having profaned the sanctity of that day."[77]

There can be no doubt that the *uposatha,* though widely diffused in southeastern Asia, originated in India where it was based on the ancient Brahmanical rites at new and full moon. According to one Buddhist tradition the monks of the non-Buddhistic sects were accustomed to meet together at the middle and at the close of every half-month for the purpose of proclaiming their teaching in public. The Buddhists also adopted the custom of these periodical meetings on the fourteenth or fifteenth, and eighth day of each half month, a custom by them attributed to the Buddha himself.[78] According to one account the recitation as the Patimokkha The Buddha seems to have wished that the Patimokkha be recited only on the fourteenth or the fifteenth day of each month.[80] At this time, however, the custom of observing the eighth day in each lunar fortnight in addition to new moon and full moon was apparently well established in India, a circumstance which led to the adoption of all four periods by Buddhism.[81]

[77] Turpin, "History of Siam," Paris, 1771, in Pinkerton's *Voyages and Travels,* ix. 583. I do not understand the reference to the "fourth day" (or night) of the moon. In Cambodia the Buddhist holidays or feast days likewise fall on the eighth, and more especially, the fifteenth day of each fortnight (Hastings, *Encyclopaedia of Religion and Ethics,* iii. 111, 162).

[78] Rhys Davids and Oldenberg, *Mahâvagga,* ii. 1 *sqq.* (*Vinaya Texts. Sacred Books of the East,* xiii. 239 *sqq.*). *Cf.* also Introduction, p. x.

of the Buddha's precepts was to constitute the *uposatha* service.[79]

[79] *Mahâvagga,* ii. 31.

[80] *Ibid.,* ii. 4, 2. An *uposatha* service on the fourteenth day of a short month was to be followed by a celebration on the fifteenth of the following long month, the months consisting of 29 and 30 days in alternation (*cf. ibid.,* ii. 34, 1).

[81] The eighth day of the waning moon (*áṣṭakā*) is distinctly mentioned in the Vedas as forming with new moon and full moon, the regular festival periods. *Cf.* Whitney, *Atharva-Veda,* 15, 16, 2; Zimmer, *op. cit.,* 365; H. Oldenberg, *Die Religion des Veda,* Berlin, 1894, p. 439. Of these

In the *Sutta Nipâta,* a collection of seventy didactic poems belonging to the Pitakas or sacred books of the southern Buddhists, Eight Precepts or moral commandments are enumerated, of which five are binding on every Buddhist, whether mendicant or layman, the remaining three not being obligatory for the laity. The entire eight are said to constitute the eight-fold fast or *uposatha* declared by the Buddha; to break any of them on the *uposatha* day (the 14th or 15th and 8th day of the lunar fortnight), is considered highly irreligious. Instead of worshipping the moon or observing lunar taboos, the Buddhists were to keep the fast day by a special fulfillment of the moral law; one of the many instances in which Gautama gave a spiritual meaning to an earlier superstitious rite.[82] That the *uposatha* celebrated as a lunar festival with fasting, avoidance of sexual intercourse, refraining from wearing wreaths and using perfumes, and other regulations, should have come to be regarded as also a rest day, seems only a natural outcome of its character as a season of abstinence. The *uposatha* is thus discovered amongst the earliest institutions of Buddhism; in its origin it could have owed nothing to Jewish or Christian influence; in its diffusion throughout southeastern Asia it appears to have remained unaffected by the influence of Islam. If these conclusions be accepted, the Buddhist Sabbath dates back, remotely, to taboos observed at changes of the moon.

the full-moon day seems to have enjoyed most importance (Oldenberg, *loc. cit.*) and similarly in Buddhism, *Cf. Mahâ-Sudassana Sutta,* i. 11: "On the Sabbath day, on the day of the full moon" (Rhys Davids, *Buddhist Suttas, S. B. E.,* xi. 251 *sq. Cf.* 254 n^3). Elsewhere the *uposatha* service is referred particularly to the fifteenth day, "it being full moon" (*Sutta Nipâta,* iii. 12).

[82] V. Fausböll, *The Sutta Nipâta,* ii. 14, 19 *sqq.* (*Sacred Books of the East,* x. part ii. pp. 65 *sq.*); T. W. Rhys Davids, *Buddhism,* London, 1890, pp. 137 *sqq.* It may be noted that the last of the Eight Precepts — "He should sleep on a mat spread on the ground" (ii. 14, 26) is identical with one of the rites prescribed for the *upavasatha* where the celebrant is distinctly enjoined to sleep on the gound (or a shake-down of grass, a blanket). See *Satapatha Brâhmana,* i. 1, 1, 11. The prohibition of drinking intoxicating liquor (ii. 14, 23) was directed against the ancient *soma* sacrifice on the second day of the *upavasatha* ceremony (*Sat. Brâh.* i. 6, 4. 5 *sqq.*).

The lunar festivals found in China have doubtless been affected by contact with Buddhism. In the T'ang dynasty Buddhist calculators were even invited to undertake an improvement of the imperial calendar. The Chinese *Ts'ing-Kwei,* or Regulations of the Priesthood, a Buddhist document, enumerates, among others, four festivals to be kept each month, at new moon and full moon, and on the 8th and 23d days. These are called *kin-ming sï-chai,* "the four feasts illustriously decreed";[83] it seems reasonable to regard them as the Chinese variant of the *uposatha.* Among non-Buddhists there is another custom of observing on the first and fifteenth of each month a ceremony, anciently in honor of the moon, but now particularly addressed to various deities, especially the gods of wealth. At one time it was customary to sacrifice a bullock to the moon on these days. On the feast day the courts of justice and *yamans* or government residences, are closed.[84] This festival, which appears to be of native origin, is now chiefly celebrated as a holiday, though its connection with an early cult of the moon, and perhaps, in remote period, with various lunar taboos, is something more than a conjecture.

An old writer tells us that in Japan there are three monthly holidays connected with the moon, though now immovable feasts. "The first is call'd *Isitatz,* and is the first day of each month. It deserves rather to be call'd a Day of Compliments and mutual Civilities, than a Church or Sunday." The second holiday is the fifteenth of each month "being the day of the Full-Moon. The Gods of the Country have a greater share in the visits, the Japanese make on this day, than their Friends and Relations." The third festival occurs on the twenty-eighth of each month, "being the day of the New Moon, or the last day of the decreasing

[83] Joseph Edkins, *Chinese Buddhism,*[2] London, 1893, p. 206. *Cf.* also the *poṣadha* rite (Hastings, *op. cit.* iii. 554).

[84] J. H. Gray, *China,* London, 1878, i. 263 *n*[1]. The well-known Feast of Lanterns comes on the fifteenth day of the eighth month. According to national tradition this is the moon's birthday. The Japanese Feast of Lanterns, celebrated on the thirteenth day of the seventh month of the old calendar, is included by Professor Frazer among his examples of the periodic expulsion of ghosts (*The Golden Bough,*[2] iii. 86 *sq.*).

moon. Not near so much regard is had to this, than there is to either of the two former, and the Sintos Temples are very little crowded on it. There is a greater concourse of people on this day at the Budsos [Buddhist] Temples, it being one of the monthly Holidays sacred to Amida."[85]

In Oriental and classical antiquity lunar rites enjoyed a wide diffusion. They formed a familiar feature of the Semitic religions, nor were they unknown to the old Egyptians. The latter held a new moon festival to celebrate the reappearance of that luminary after its temporary obscuration. Herodotus is authority for the statement that the Egyptians also sacrificed pigs to the full moon though they abhorred the use of swine on all other festivals.[86] Such ceremonies had doubtless come down from prehistoric times; and in the light of the numerous analogies elsewhere it is not improbable that they may have been once accompanied by various taboos. Among the Greeks the first of the month was a day of repose, of prayers and offerings to the gods. At rationalistic Athens it would seem as if the burden of the old prohibitions had been gradually relaxed with growing culture; though public affairs were suspended on the new moon day (Noumenia), the markets were open for business.[87] Both new moon and full moon appear to have been regular monthly festivals among the Greeks, the former being sacred to Hera who had an ancient connection with the moon. Similarly at Rome all the Calends were consecrated to Juno.[88]

[85] E. Kaempfer, *History of Japan*, ii. 21 *sq.* (Glasgow reprint, 1906). Kaempfer, of course, is no very reliable authority on Shintoism, but in this particular instance he may be presumed to have reported the facts with accuracy.

[86] Herodotus, ii. 47.

[87] Porphyry, *De abstinentia*, ii. 16; Roscher, in *Philologus*, 1898, p. 218; Plutarch, *Quaestiones Romanae*, 25.

[88] Roscher, *Über Selene und Verwandtes*, 110 *sq.*; A. Mommsen, *Heortologie*, Leipzig, 1864, p. 2. The position of Hera as a goddess of marriage and childbirth can only be explained by her ancient *rôle* as a moon-deity. In Roman mythology Juno was associated with the moon as Juno-Lucina, it being held that she aided women during confinement (Plutarch, *Quaest. Rom.*, 77). In old Egyptian belief the moon was supposed to

Traces of the ancient superstitions relating to the moon still linger in European culture. The people of Thermià in the Cyclades, believe it necessary to suspend all work on the days just preceding the full moon.[89] An English antiquarian, previously cited, declares that according to the rules of astrology "it is not good to undertake any Businesse of importance in the new of the moon; and not better just at the Full of the moon; but worst of all in an Eclipse. . . ."[90]

V. LUNAR CALENDARS

12. LUNAR MONTHS

It is sufficiently evident that the alternations of night and day must have furnished man with his most elementary conceptions of the passage of time. A longer cycle was naturally suggested by the lunar phenomena so striking, so obvious, and marked by such easily determinable stages. The need of observing the moons, apart from religious or superstitious reasons, was no doubt mainly connected with economic considerations. To the hunting and frugivorous savage it is of supreme importance to be able to anticipate the different periods of the year which bring with them different supplies of natural food; and for this purpose the moons afford a convenient basis of reckoning. Hence we find that quite commonly among primitive peoples the moons are named after the molting, migrating and pairing of animals, or after the budding, blossoming and ripening of the fruits of the earth. Again, most shepherd tribes reckon time by moons. In the pastoral stage it is probable that the necessity of calculating the various periods of gestation and the proper time of breeding so that young animals might be brought into the world at seasons most favorable to their

make women fruitful, and the waxing moon to develop the germ in the mother's body (Brugsch, in *Verhandl. Berliner Gesells. f. Anthrop., Ethnol. u. Urgesch.*, 1889, p. 568.

[89] J. T. Bent, *The Cyclades*, London, 1885, p. 438.

[90] Aubrey, *op. cit.*, 85.

health and maintenance, contributed to the observation of the moon and to the formation of lunar calendars.[1]

If the desirability of observing the successive moons was felt by frugivorous and pastoral peoples it will be readily seen how the introduction of agricultural operations, often accompanied by religious ceremonies and festivals, rendered definite and clearly marked divisions of time a matter of the greatest moment. It is therefore probable that rude popular calendars based on the moon were in use long before more accurate observations were made by primitive astronomers.[2] There is much evidence for the practice of naming the moon months after the different agricultural operations, such as planting and harvesting, which occur in them. Among both Babylonians and Hebrews, for example, the early epithets of the months are connected with agriculture and the farmer's life.[3]

A survey of the anthropological and historical data indicates that for most primitive peoples as well as for those of archaic civilizations, the moon is the measure of time and that the period of a lunation furnishes the customary unit for longer reckonings. Lunar months and years are general throughout Africa, Polynesia and North America; lunar calendars in Mexico and Yucatan preceded the introduction of the solar year, the ancient Peruvians reckoned by the succession of lunations, as still do the Malagasy, the Arabs and the Chinese. The importance of the moon for the ancient Egyptian and Babylonian calendars is shown by the fact that in the one case the hieroglyph signifying month was represented by a crescent moon, in the other case by the regular use of the sign for thirty to indicate the moon-god Sin. Linguistic

[1] *Cf.* Payne, *History of the New World Called America*, Oxford, 1899, ii. 327 *sq.*

[2] These considerations make it impossible for me to accept M. Hubert's conclusion that the first calendars were merely almanacs which registered day by day various prognostics and directions of a magico-religious character. See his valuable essay "Étude sommaire de la représentation du temps dans la religion et la magie," in Hubert and Mauss, *Mélanges d'histoire des religions*, Paris, 1909, pp. 228 *sq.*

[3] Jastrow, *op. cit.*, 462.

researches indicate that in most if not all the Indo-European languages the names for moon and month originally coincided. In Max Müller's poetical language the moon was "the golden hand on the dark dial of heaven."[4]

A lunar month, however, does not necessarily imply a lunar year; the Melanesians, for instance, count by moons, but are said to have no notion of a year as a fixed period of time.[5] The foundation of yearly reckonings must doubtless be sought in marked seasonal contrasts, or, where these are not found, in the observation of the Pleiades. Their isolated appearance and conspicuous light have always aroused much attention, and their position in the sky with respect to seed-time and harvest enabled them to serve as a guide to the agriculturist.[6] The reckoning by moons, when once formulated, combines readily with the succession of the seasons, as is seen in the original moon-calendar of Mexico, where several of the months bear seasonal names.[7] That lunar reckonings are likewise associated with the Pleiades year may be illustrated by the practice of the Maori, the first month of whose lunar year was determined by the rising of the Pleiades.[8] In order to adapt the same moons to the same seasons as they successively occurred, or to the cosmical setting and heliacal rising of the Pleiades, the number of moons was usually reckoned at 12, giving the lunar year of 354 (or 355 days).[9]

The period of a lunation seems to have been most frequently

[4] Since this chapter was originally written much valuable material on calendar systems has appeared in Hastings, *Encyclopaedia of Religion and Ethics*, 1911, vol. iii. *s. v.* "Calendar."

[5] Codrington, *op. cit.*, 349. The Veddahs of Ceylon are said not to keep "any account of time," reckoning neither months nor years (H. Parker, *Ancient Ceylon*, London, 1909, pp. 84 *sq.*, 109 *sq.*).

[6] On the significance of the Pleiades generally see "Die Plejaden im Mythus und in ihrer Beziehung zum Jahresbeginn und Landbau," *Globus*, 1893, lxiv. no. 22. The thorough investigation of the Pleiades calendars found among primitive peoples would be a useful piece of work.

[7] Payne, *op. cit.*, ii. 329, for the calendar as conjecturally restored.

[8] Shortland, *op. cit.*, 219.

[9] The lunar year of 12 synodic months is, exactly, 354d. 8h. 48m. 36s.

estimated at 30 days;[10] months of that length are found among peoples, such as the Todas, who are unfamiliar with solar reckonings and whose calendar is strictly lunar.[11] The early Babylonian month seems also to have consisted of 30 days.[12] When the moon's synodic revolution came to be more accurately measured by calculating an average from the number of days comprized in several successive lunations, the true length (about 29½ days)[13] could be conveniently calendarized only by periods of 29 and 30 days in alternation. Such vacillating months were used by the Maori of New Zealand, they were familiar to the Jews,[14] the later Babylonians[15] and the Greeks,[16] and they are still found among the Arabs and various peoples of southeastern Asia. The Roman arrangement of the months, though based on the lunar year, is *sui generis*.[17]

[10] Philo Judaeus speaks of the number thirty as being derived from the notion of the month (*De mundi opificio*, 19).

[11] Rivers, *op. cit.*, 591. Other illustrations among the ancient Peruvians, the Caroline Islanders (Christian, *op. cit.*, 392 *sqq.*), etc.

[12] Muss-Arnolt, in *Journal of Biblical Literature*, xi. 72 *sq.* In the temple records belonging to the third millenium B. C., found at Telloh, months of 30 days are exclusively employed.

[13] The Mayas are said to have estimated the lunation at 29.526 days, too short by only four thousandths of a day—a truly remarkable achievement (Förstemann, in *Bulletin of the Bureau of American Ethnology*, no. 28, p. 498). The Incan astronomers, however, got no further than the primitive estimate of 30 days; hence their lunar year consisted of 360 days divided into 12 months commencing with the winter solstice. No method appears to have existed by which the reckoning might be coördinated with the succession of years (Payne, *op. cit.*, ii. 330 *sqq.*; Spence, in Hastings, *Encyclopaedia of Religion and Ethics*, iii. 68 *sq.*).

[14] E. Schürer, *History of the Jews in the Time of Christ*, Edinburgh, 1905, div. i. vol. i. 367 *sqq.*

[15] Lehmann, in *Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte*, 1896, p. 444.

[16] The Greeks never knew the exact mean measurement of a lunation (29d. 12h. 44m. 3s.) and owing to their neglect of the odd minutes and seconds in the true lunation they were obliged to intercalate an extra day every 32 or 33 months. From a passage of Aristophanes in the "Clouds" it would appear that this duty was not always performed (*Nubes*, 610 *sqq.*).

[17] The Roman lunar year of 355 days, consisted of 12 months, March,

It is unnecessary, in this connection, to discuss fully the various methods which have been employed to adjust the lunar year to the tropic or seasonal year. One expedient is the counting of thirteen lunar months to the year, a practice found among some tribes of North America as well as in Polynesia, Siberia, and Africa.[18] A year of 13 lunar months gets even more quickly out of harmony with the seasons and the course of the sun; hence arose the practice of intercalating the thirteenth month, usually in every second or third year.[19] Familiar illustrations are furnished by the Babylonians, Jews, and Greeks; among modern peoples by the natives of Burma, Siam, and China. The methods of intercalation employed are historically numerous, the details often obscure, and in no instance were the results wholly successful. The difficulties arising from such attempts to coördinate incommensurable periods must have been the prime cause of the adoption of calendars in which the month, instead of denoting the moon's synodic revolution, was given an

May, July, and October having 31 days, and the rest 29, except February, which had 28 days. All the months, therefore, had an odd number of days, save February which was specially devoted to purification and the cult of the dead. This peculiar arrangement of the months appears to have been based on an old superstition that odd numbers are of good omen, even numbers of ill omen (Fowler, *Roman Festivals,* 3; Th. Mommsen, *Die römische Chronologie bis auf Caesar,* Berlin, 1858, p. 13; Marquardt-Wissowa, *Römische Staatsverwaltung,*[2] iii. 284). Possibly, the choice of 355 days rather than 354 days as the length of the lunar year, was dictated by similar considerations (L. Holzapfel, *Römische Chronologie,* Leipzig, 1885, p. 281).

[18] The Thompson Indians of British Columbia grouped their lunar months into five seasons, an arrangement which enabled them to bring the lunar and tropic year into harmony, since they had an indefinite number of unnamed months (Teit, in *Memoirs of the American Museum of Natural History,* ii. 239). Five seasons were familiar to the ancient Hindus (Haug, *Aitareya Brahmanam,* ii. 6, 39).

[19] The thirteenth or intercalary month, mentioned in the *Rig Veda,* bears a distinctly unfavorable character, being regarded as unfit for any religious undertaking (Haug, *Aitareya Brahmanam,* ii. 26). Among the Loango negroes the thirteenth month, intercalated every three years, likewise is regarded as an evil time (Pechuël-Loesche, in *Die Loango-Expedition,* dritte Abteilung, erste Hälfte, Stuttgart, 1907, pp. 138 *sq.*).

arbitrary number of days approaching the twelfth part of a solar year.

Peoples who reckon by moons naturally begin their lunar month with the first appearance of the luminous crescent in the western sky.[20] The real new moon being invisible during two or three days, various expedients are resorted to for the purpose of ensuring regularity in lunar reckonings. Thus the Todas, whose year consists of twelve months each of thirty days, keep a record of the number of days from one new moon to the full moon and from that to the next new moon. The full moon is counted as being on the fifteenth day after the new moon, and the new moon as being on the sixteenth day after the full moon.[21] The Basuto begin their month on the day when the new moon is visible, though they count two more days when the moon cannot be seen at all in the heavens.[22] Among the Romans the day of the new moon, *Kalendae,* "the proclaiming day" (*calare*), was so called because in early times the pontiffs had been accustomed to announce in the presence of the people,

[20] This custom affords the explanation of the widespread practice of beginning the civil day at sunset or, more accurately, in the interval between the going down of the sun and complete darkness. The necessities of a calendar system requiring that the first day of the month should be counted from the same moment that the month itself is supposed to begin, it follows that the other days of the month are likewise calculated from evening to evening. The noctidiurnal cycle may be observed among such widely separated peoples as the Maori, the Yorubas of West Africa, and the Malagasy. The Babylonian day began with the evening, and this is still the practice throughout the Mohammedan world. The Jewish communities of the present in commencing their ritual day in the evening, retain a practice illustrated by several Old Testament passages (*Genesis,* i. 5; *Psalms,* lv. 17). Various festivals such as the Sabbath and Day of Atonement were so arranged as to begin with and end with the evening. Among most of the Indo-Germanic peoples the civil day or nycthemeron commenced at sunset; and this custom was not abandoned in Italy and some other parts of Europe until about a century ago. Our English words "fortnight" and "sennight" contain reminiscences of a similar practice.

[21] Rivers, *op. cit.,* 590 *sqq.*

[22] J. Sechefo, "The Twelve Lunar Months among the Basuto," *Anthropos,* 1909, iv. 931 *sqq.* The author is a native Basuto.

whether five or seven days were to be reckoned from the Calends to the day of the first quarter.[23] In Babylonia, where the month began in theory on the day when the new moon was visible, and where the lunar movements were also followed with great attention for astrological purposes, the royal astronomers sent regular reports to the king as to the appearance or non-appearance of the new moon.[24]

13. LUNAR WEEKS

The lunar month which in rude communities provides a satisfactory chronological unit does not meet the needs of an advancing society. Shorter periods become desirable, both for the regulation of religious festivals and for the ordering of markets and business engagements. In some instances brief cycles of 3 and 4 days may have been arbitrarily determined without reference to the moon. In west Africa, however, we frequently find the month divided into seven weeks of four days each (*supra*), a circumstance indicating that the week is now regarded as a division of the lunation. An 11-day period which, indeed, would make an unsatisfactory division of the lunation, appears to be unknown. A vulgar cycle of 12 days is still used in China, the number twelve having been suggested, probably, by the number of months in the year.[25] A similar explanation may hold good for the 13-day period of the Mexicans, who appear to have counted thirteen months to the lunar year.[26] Since new moon

[23] Macrobius, *Saturnalia*, i. 15, 9; *Varro, De lingua Latina*, 6, 27; Mommsen, *Römische Chronologie*, 16 *sq.*

[24] R. C. Thompson, *Reports of the Magicians and Astronomers of Nineveh and Babylon*, London, 1900, ii. p. xviii *sq.* *Cf.* Ginzel, in *Klio*, 1901, i. 193, who refers to the observations made of the length of time during which the new moon was visible in the evening on the first of the month.

[25] The cycle has some connection with astrology and is doubtless of late development. See Hastings, *Encyclopaedia of Religion and Ethics*, iii. 84.

[26] J. de Acosta, *Natural and Moral History of the Indies*, edited by C. R. Markham, London, 1880, ii. 393, 396; H. H. Bancroft, *Native Races of the Pacific Coast*, ii. 515; Payne, *op. cit.*, ii. 310, 323 *sqq.* Mr. Payne however, suggests as a factor leading to the choice of the number 13, the recognition

and full moon form the most conspicuous lunar phases it has been a common practice among peoples, some of whom have no regular civil weeks, nevertheless to recognize two periods in the lunar month as marked by the waxing and by the waning moon Such a two-fold division was familiar to the ancient Hindus and Persians, to the oldest Greeks and Romans.[27] Among the Germans the new and full moon appear as the most prominent lunar phases.[28] The division of the lunation into two parts, the one of 15 days, the other of 14 or 15 days, according as the month had 29 or 30 days, is clearly indicated for the Celtic peoples.[29]

of thirteen visible phases of the moon's increase (Mex. *mextozoliztli*, the moon's waxing) and thirteen phases of her decrease (*mecochiliztli*, the moon's sleep). "From employing the 13 seasonal names of moons to denote the series of days thus enumerated it is an easy transition to a continuous reckoning by cycles of 13 days perpetually denoted in the same way; and a perpetual cycle thus established formed a true calendar" (*op. cit.*, ii. 356). Some other less plausible reasons for the selection of the number 13 are considered by Mr. C. P. Bowditch, *The Numeration, Calendar Systems, and Astronomical Knowledge of the Mayas*, Cambridge, [Mass.], 1910, pp. 266 *sq.* In some pueblos the markets were held every 13th day; a circumstance which has been rightly regarded as relating back to times when the 13-day cycle was the only one known (Payne, *op. cit.*, ii. 368). The later cycle of 5 days found among the Mexicans and Mayas may be regarded simply as a convenient division of the 20-day periods, eighteen of which were counted in the solar year. (Brinton, "The Native Calendar of Central America and Mexico," *Proceedings of the American Philosophical Society*, 1893, xxxi. 262 *sqq.*). On the market-day which closed each 5-day period see *supra*.

[27] Schrader, *Reallexikon*, *s. v.* "Mond und Monat"; H. Zimmer, *Altindisches Leben*, Berlin, 1879, p. 364. Modern Hindus divide the month into two parts called *pukh*, or fortnights. The first is called *badi*, reckoning from the first to the fifteenth, which day is called *amavus*, answering to the Roman Ides, and is held in great sanctity. The second division is called *sudi*, from full moon to new moon (Balfour, *Cyclopaedia of India*, *s. v.* "Month"). The days of the month are thus reckoned by the increasing and decreasing moon (*supra*). For a similar bipartite division of the month in Cambodia and Siam see Hastings, *op. cit.*, iii. 111, 113, 136.

[28] Tacitus, *Germania*, 11 (*cum aut inchoatur luna aut impletur*).

[29] Loth, in *Revue celtique*, 1904, xxv. 131; Thurneysen, in *Zeitschrift für deutsche Wortforschung*, 1901, i. 191. In the Calendar of Coligny between

Our English "fortnight" (O. E. *feówertȳne niht*) preserves the memory of a similar practice.

Peoples sufficiently developed in culture to require weekly cycles being already familiar with the length of the moon's synodic revolution,[30] it is reasonable to assume that in most, perhaps all, cases civil weeks of 5, 6, 7, 8, 9, and 10 days would arise as divisions, either of the true lunation or of the conventional month. The origin and early history of the week, remain, however, involved in much obscurity. W. H. Roscher, whose extensive researches have greatly contributed to our knowledge of the subject, argues that the sidereal month (averaging 27d. 7h. 43m. 11.55s.) and the "light" month or period of the visible moon (assuming this at 28d.), have furnished the basis for the 9-day and 7-day divisions; the synodic month the basis for the division into 3 decades.[31] This ingenious explanation is open to several objections. The calculation of the sidereal month implies an extent of astronomical knowledge which can scarcely be predicated of the peoples who have employed 9-day divisions. Again, the length of the "light month" is a highly variable quantity which cannot be said even to average 28 days. As a matter of fact months of 27 and 28 days which we should expect to find associated with the 9- and 7-day divisions are very rare. By far the commoner arrangement is the calendarizing of the lunation by alternate periods of 29 and 30 days for the reasons mentioned above. Still another objection to Roscher's theories requires more extended discussion.

Since the lunar month begins with the new moon it follows

each part is placed in large letters the word ATENOUX, indicating the night of the full moon, "great night" (Hastings, *op. cit.*, iii. 82).

[30] The synodic revolution of the moon is the time between two successive conjunctions with the sun, and may be measured from new moon to new moon or from full to full. It varies about 13 hours by reason of eccentricities of the moon's orbit and of that of the earth about the sun, but its mean value is 29d. 12h. 44m. 3s.

[31] "Die enneadischen und hebdomadischen Fristen und Wochen der ältesten Griechen," *Abhandlungen der philologisch-historischen Klasse der königlich-sächsischen Gesellschaft der Wissenschaften*, 1903, xxi. no. 4, pp. 5 *sq.*, 14, 68 *sq.*

that the divisions of the month begin likewise with the new moon, and the first day of the month is at the same time the first day of the first week in the month, the last day of the month is the last day of the last week. Thus the Yoruba week consists of 5 days, and six of them are supposed to make a lunar month. As a matter of fact, since the first day of the first week always commences with the appearance of the new moon, the month really contains five weeks of 5 days' duration, and one of four days and a-half, approximately. The Yoruba tribes, choosing thirty as the number to be divided, have been obliged to deduct some twelve hours from the last 5-day week in order to make six of these periods agree with the lunar (synodic) month.[32] Again, the Tshi tribes of the Gold Coast, having chosen 7-day weeks, find it necessary to begin them at different hours of the day. Consequently some of their periods, termed *n'ehsŭn,* "It is seven," may have eight days and six nights, others the reverse, and others seven days and nights, with a fractional part of a day or night.[33] The same difficulties were experienced by the Ahantas of the western districts of the Gold Coast who divide the lunar month into three periods, two of ten days' duration, and the third lasting until the next new moon appears, that is, for about nine days and a half.[34] The Sofalese of east Africa must have had the same system, for they are said to have divided the month into three periods of 10 days each, the first day of the first week being the festival of the new moon.[35] The

[32] Ellis, *Yoruba-Speaking Peoples,* 143 *sq.* The Benin tribes are said to employ the same method of reckoning.

[33] *Idem, Tshi-Speaking Peoples,* 215 *sq.* The Ga tribes have an exactly similar mode of measuring time, though their names for the days of the week are not the same as those used by the Tshi. With both the Tshis and Gas the full moon marks the commencement of the third week of 7⅜ days, and with the Yorubas, the commencement of the fourth week of 5 days, in each case marking the lapse of half a month.

[34] *Idem, Yoruba-Speaking Peoples,* 144. The first period, called *adai,* is considered lucky; the second, called *ajamfo,* unlucky; *adim,* the third period, bears a neutral character (John Beecham, *Ashantee and the Gold Coast,* London, 1841, p. 187.

[35] De Faria, in Astley's *Voyages and Travels,* iii. 397.

Maori of New Zealand who likewise reckoned by decades, thirty-six to the year,[36] were doubtless obliged to count only nine days in their third and last decade, when the alternating sequence of 29 and 30 day months gave them 29 days in their lunar month. All this procedure is especially significant since it illustrates the expedients which have been used by primitive peoples whose months and weeks are both strictly lunar, to overcome the difficulty presented by the fact that the length of a lunation is an odd number, not yielding to subdivision into exactly equal parts. It is a mark of late development when the divisions of the month, as the Roman nundinal period, and the Jewish seven-day week, run continuously through the year.

Bearing in mind this evidence yielded by contemporary or almost contemporary races belonging to the lower culture, we may approach the more difficult problem involved in the consideration of the cycles used among historical peoples. We begin with the division into decades employed by the ancient Peruvians, the Greeks, and the Egyptians.[37] It seems reasonable to regard such 10-day cycles, like those of the primitive peoples just mentioned, as originating in the desire to find a convenient division of the lunar month, a division perhaps suggested by the increase, culmination, and decrease of the moon, as shown by the waxing crescent, the more or less full disk, and the waning crescent. If it be held that the arrangement by decades was rather suggested by denary arithmetic, we may at least feel confident that it would not have been chosen except for its close approximation to the length of the lunar month. As a matter of fact such a sequence represents the true course of the lunation in days more correctly

[36] Taylor, *Te Ika a Maui,* 177; *cf.* Waitz-Gerland, *op. cit.,* vi. 72. In some of the Caroline Islands we find, not decades, but a curious three-fold division, evidently associated with the moon. Thus at Yap the 30-day month is divided into *pul* = new moon (1–13 days), *botrau* = full moon (14–23 days), *lumor* = darkness (23–30 days). See Christian, *op. cit.,* 394.

[37] The Chinese have no formal division of the month, but it is a common practice among them to speak of anything as happening in the first, middle, or third (last) decade (Hastings, *op. cit.,* iii. 83). A similar arrangement prevailed in Japan (*ibid.,* 115).

than a 9-day, or an 8-day, or even a 7-day week. The Peruvian cycle, already noticed, formed merely a division of the primitive 30-day lunar month (*supra*). The decades of the ancient Egyptians,[38] being divisions of the conventional 30-day month, must have run periodically from month to month, save as interrupted by the five epagomenal days required to make up the solar year. They were known as the decade of the beginning (*hati*), that of the middle (*abi*), and that of the end (*pahu*), a characterization which may have once had reference to three lunar phases. But since these names were in use as early as the Xth dynasty, inquiry into their origin becomes a matter of speculation. On the other hand, the Greek decades,[39] betray in their names, μὴν ἱστάμενος (waxing), μεσῶν (central), and φθίνων (waning), an association with the moon. The days of the last decade were usually counted backwards; in "hollow" months, the day corresponding to the 29th of "full" months was omitted, so that the decade really contained only nine days. At Athens the last day of the third decade was styled ἕνη καὶ νέα ("old and new moon"), as being the day which belonged half to one (theoretical) month of 29½ days, and half to the next. No clearer illustration could be afforded of lunar weeks adjusted to the lunar month.[40]

The evidence for the existence of 9-day cycles is very obscure. Some negroes of the Guinea coast are said to employ them.[41]

[38] C. R. Lepsius, *Die Chronologie der Aegypter,* Berlin, 1849, i. 22, 132 *sqq.;* Foucart, "Calendar (Egyptian)," in Hastings, *Encyclopaedia of Religion and Ethics,* iii. 92, 105.

[39] A. Mommsen, *Chronologie, Untersuchungen über das Kalenderwesen der Griechen,* Leipzig, 1883, pp. 43 *sqq.;* Unger, in Iwan von Müller's *Handbuch der klassischen Altertumswissenschaft,* i. 563 *sq.*

[40] It has been already noticed (*supra*) that the early Greeks recognized a twofold division of the month which was marked by the day of full moon—διχομηνία—on the 15th day. Popular custom continued to observe the 15th as full moon day, although after the introduction of the sequence of 29 and 30 days, the day of full moon in "hollow" months fell on the 14th day except when an extra day was intercalated every 32 or 33 months (Unger, *op. cit.,* 563).

[41] H. Schurtz, *Urgeschichte der Kultur,* Leipzig, 1900, p. 633.

Roscher believes he has found traces of 9-day periods among various Indo-Germanic peoples, particularly the Greeks of the Homeric and pre-Homeric age.[42] It cannot be conclusively shown, however, that the numerous illustrations of 9-day periods given by him were ever employed for civil purposes as regular divisions of the month.[43] A similar remark applies to the frequent mention in old Irish texts of periods of 3 days and nights and of 9 days and nights.[44]

Periods of 8 days are of rare occurrence though known, in the lower culture, to some African tribes. Thus the Bini of Benin now employ an 8-day week, but this seems to have developed from an earlier week of four days regarded as a seventh of the lunation, which is found so frequently in west Africa.[45] On the other hand, an 8-day week called *'sāměn* is found among the

[42] Roscher, *op. cit.*, 14 *sqq.* *Cf. idem*, "Die Sieben- und Neunzahl im Kultus und Mythus der Griechen," *Abhandlungen der philologisch-historischen Klasse der königlich-sächsischen Gesellschaft der Wissenschaften*, 1904, xxiv. no. 1, pp. 54 *sqq.*, 69, 83.

[43] The same must be true of the 7-day periods with which, as Roscher has shown, the early Greeks were as familiar as with the 9-day periods ("Fristen," 41–68; *idem*, "Sieben- und Neunzahl," 67 *sqq.*; *idem*, "Die Hebdomadenlehren der griechischen Philosophen und Ärzte," *Abhandlungen*, etc., 1906, xxiv. no. 6, p. 8).

[44] *Cf.* Thurneysen, "Die Namen der Wochentage in den keltischen Dialekten," *Zeitschrift für deutsche Wortforschung*, 1901, i. 191. Loth, however, regards the Celtic periods as having been employed as ordinary weeks ("L'année celtique d'après les textes irlandais," *Revue celtique*, 1904, xxv. 136). He accepts Roscher's theory of the sidereal month having furnished the basis for such 9-day periods as are found among the Celts, and argues further, that subsequently, the sidereal, having been abandoned for the synodic month, the 9-day periods became artificial units, independent of any connection with the moon. But so strange a transition as that from the sidereal to the synodic month cannot be supported by any Celtic evidence and has no analogy among other peoples. The number 9, it is worth while noting, enjoyed a high degree of sanctity among various Indo-Germanic races (O. Schrader, *Reallexikon*, 970 *sq.*). It is possible, however, to conjecture that the 9-day period arose, originally, as a multiple of a 3-day cycle in earlier use.

[45] R. E. Dennett, *At the Back of the Black Man's Mind*, London, 1906. pp. 214, 364. *Cf.* also, Waitz, *op. cit.*, ii. 224 (Old Kalabar).

northern Abyssinians. Every month contains four weeks, of which the first two are those of the increasing moon and the last two those of the decreasing moon. People say, however, that in reality the month has only three weeks and six days—and so it is (*und das ist wahr*).[46] This Abyssinian evidence may be taken as making it reasonably certain that the Roman nundinal period (*supra*), the only 8-day week found in archaic culture, arose from the quartering of the lunation, since the length of the latter (29½ days) may be calendarized in quarters, either of seven or of eight days. The Roman month was originally lunar and at all periods was divided by the real or (later) by the imaginary phases of the moon.[47] In historical times, however, the nundinal period, like the Jewish seven-day week, was independent of the moon, running unfettered from month to month and from year to year.[48]

[46] Littmann, "Sternensagen und Astrologisches aus Nordabessinien," *Archiv für Religionswissenschaft*, 1908, xi. 302 *sq.*, 319. In order to adapt this native 8-day week to the imported hebdomadal cycle, Sunday is counted twice.

[47] Th. Mommsen, *Die römische Chronologie*, 13 *sq.*, 215 *sq.*; Marquardt-Wissowa, *Römische Staatsverwaltung*, Leipzig, 1885, iii.² 282 *sq.* On the Calends see *supra*. The *Nonae* or Nones, marking first quarter, were so-called because they were the ninth day (*nonus*) before the Ides (*Varro, De ling. Lat.*, vi. 28). Plutarch's derivation from *novus*, new or young, referring to the waxing moon, has no justification (*Quaest. Rom.*, 24). The Ides, or day of the full moon, came on the 13th or 15th day of the month, depending on whether the Nones fell on the 5th or the 7th; the day, however, was always the eighth after first quarter. The term *Idus* has been derived from Etruscan *iduo*, to divide (Macrobius, *Sat.* i. 15), but more probably the word goes back to a Sanskrit root, *indh, idh*, to kindle, lighten. The Nones were sacred to no deity, but the Calends were consecrated to Juno who had an ancient connection with the moon, and the Ides to Jupiter.

[48] The evidence of the *Fasti Sabini* (*Corpus Inscriptionum Latinarum*, i. part i.² 220), drawn up between the years 19 B.C.–4 A.D., has been taken to imply the existence of a week of seven days among the Sabines until the close of the Roman republic (Marquardt-Wissowa, *op. cit.*, iii.² 289). But the reference must certainly be to an early instance of the use of the planetary or astrological week introduced from the East. See *infra*, and *cf.* Gundermann, "Die Namen der Wochentage bei den Römern," *Zeitschrift für deutsche Wortforschung*, 1901, i. 177).

Though periods of six days are unusual, and to my knowledge have been discovered only in Africa,[49] the 5-day cycle enjoys a wide distribution. Whatever considerations may have led to the choice of such a period it certainly represents a very close division of the lunation, five days exceeding a sixth of the month by rather less than two hours. The Javanese used such a cycle before they adopted the 7-day week from the Mohammedans,[50] as still do the non-Mohammedan Lampong of Sumatra. The old Scandinavians likewise divided their month into six weeks, each of 5 days.[51] A 5-day period, *ḫamuštu,* employed as a sixth of the month, has been recently shown to have been familiar to the Babylonians in the third millennium B.C.[52] The cuneiform evidence clearly indicates that the changes in the moon's appearance were successively associated with these five-day periods, since the first five days of the month are spoken of as those of the crescent moon, the next as those of the half-moon ("kidney"), and the five following days as those of the full or nearly full moon.[53] It is possible, though to my mind scarcely probable, in

[49] Gottschling, in *Journal of the Anthropological Institute,* 1905, xxxv. 382 (Bantu tribes occupying the northeast corner of the Transvaal).

[50] (Sir) T. S. Raffles, *History of Java,*[2] London, 1830, i. 475. As in Africa the principal use of the Javanese week was to determine the markets or fairs held in the important towns. Each day had its distinctive name—*laggi, pahing, pon, wagi, kliwon.* The natives considered these names to have a mystical relation to colors and the divisions of the horizon, the first day (white, east), the second (red, south), the third (yellow, west), the fourth (black, north), and the fifth day a mixed color or center (John Crawfurd, *History of the Indian Archipelago,* Edinburgh, 1820, i. 289 *sq.*). These fancies must be explained by the color symbolism which so frequently attaches to the cardinal points.

[51] P. B. Du Chaillu, *The Viking Age,* New York, 1889, i. 37 *sq.;* Vigfusson, *Icelandic-English Dictionary,* Oxford, 1874, *s. v.* "fimt." *Cf.* also F. B. Gummere, *Germanic Origins,* New York, 1892, p. 418.

[52] Sayce, in *Proceedings of the Society of Biblical Archaeology,* 1897, xix. 288; H. Winckler, *Altorientalische Forschungen,* Leipzig, 1898, ii. 95 *sqq.;* Jensen, "Die siebentägige Woche in Babylon und Nineveh," *Zeitschrift für deutsche Wortforschung,* 1901, i. 150 *sq.*

[53] Rawlinson, *Cuneiform Inscriptions of Western Asia,* iii. 55, no. 3, 17 *sqq.*

view of the analogies elsewhere, that this connection with the lunar phases is secondary and hence less ancient than the division into five-day periods. The cuneiform texts of a much later period also contain traces of the *ḫamuštu* which Jensen thinks was then a periodic week running unbroken through the year. In that case the *ḫamuštu* had become disassociated from the moon and the lunar month. The entire subject is obscure and may well await future discoveries for its complete elucidation.[54]

14. THE HEBDOMADAL CYCLE

In the preceding pages much evidence has been presented to show how carefully various primitive races watch the changes of the moon and describe them by appropriate names (*supra*). The lunar phases form an easy means of calculating the passage of time; and we often find them employed for chronological purposes where civil weeks are unknown. Thus the natives of Kaiser Wilhelm's Land, New Guinea, employ for all time units greater than a day, the phases of the moon.[55] The Dayaks of Borneo, who have no true weeks, are nevertheless said "to reckon their time by the full moon, half-moon, and new moon."[56]

[54] In the *Mâh Yast*, 4, occurs the statement: "We sacrifice unto the new moon, the full moons, and the *Vîshaptathas*." According to the editor (Darmesteter, in *Sacred Books of the East*, xxiii. 90 *n.*[5]), new moon and full moon are not used here with their usual significance, but the passage refers to the division of the month into six parts of five days, the first part forming new moon, the second a period answering, in a measure, to first quarter, and the third, which belonged to full moon, being called the *Vîshaptatha*. If this interpretation be correct the Persians at the time the Yasts were written recognized a sort of 5-day week, which may show Babylonian influence. *Cf. Mâh Yast*, 2: "For fifteen days does the moon wax; for fifteen days does the moon wane." The Avesta month consisted of thirty days, the first, eighth, fifteenth, and twenty-third, being dedicated to Ahuramazda (W. Geiger, *Civilization of the Eastern Irânians*, London, 1885, i. 146 *n.*[1]).

[55] B. Hagen, *Unter den Papua's*, Wiesbaden, 1899, p. 244.

[56] C. Bock, *Head-Hunters of Borneo*,[2] London, 1882, p. 212. The Bontoc Igorot "seldom count time by the phases of the moon" (Jenks, *op. cit.*, i. 219).

Similarly, the south Arabians determine the day of the month by observation of the moon's phases, the first quarter being called, for example, the 7th day, the last quarter, the 21st day.[57] Of the American Indians it is said generally that the "alternations of day and night and the changes of the moon and the seasons formed the bases of their [calendar] systems."[58]

When new moon and full moon are recognized as supplying the two-fold division of the month, it is a natural step, if shorter cycles are desired, to find them by quartering the lunation, a subdivision rendered both obvious and easy by the two half moons. We still speak of the "quarters" of the moon. The length of a lunation being approximately 29½ days, a fourth of this period occupies about 7⅜ days. In such a matter it is necessary to employ round numbers; the Roman nundinal period of eight days (*supra*) probably expresses one method of calendarizing the quarter of a lunation, the seven-day week the other and more accurate division. It is scarcely an argument against the natural origin of the hebdomadal cycle to urge that because seven days do not form an exact division of the lunar month, that period could not have been chosen with such a purpose in view.[59] No other number will divide the lunation without a remainder. Accordingly, the first method of reckoning the seven-day week (as of all other cycles) was to commence with new moon and count successively seven, fourteen, twenty-one, and twenty-eight days, either leaving over as epagomenal, one or two days at the end, or resolving the difficulty by beginning the weeks at different hours of the day, the somewhat complicated device of certain primitive peoples (*supra*). Such lunar weeks are true divisions of the lunar month.

The history of the seven-day week introduces a variety of

[57] Nielsen, *Die altarabische Mondreligion*, 85, referring to Dr. Glaser's observations.

[58] Thomas, "Calendar," *Bulletin of the Bureau of American Ethnology*, no. 30, part i. p. 189. No civil weeks have been discovered among even the most advanced of the American tribes.

[59] F. Ruhl, *Chronologie des Mittelalters und der Neuzeit*, Berlin, 1897, p. 50.

obscure and difficult problems. The fact that the hebdomadal cycle, though naturally suggested by the four lunar phases, is possibly absent from the lower culture except as a borrowed institution, itself requires explanation. Here it may be sufficient to observe that a period of seven days, in comparison with other cycles which might be chosen, furnishes an unsatisfactory divisor of the lunation, falling short of a quarter of a month by more than nine hours. The five- and ten-day periods provide better lunar weeks, a circumstance which may be taken to account for their wide diffusion (*supra*).

There is no certain evidence of a seven-day week which cannot be traced back ultimately to Semitic antiquity. Thus in India it appears to have been introduced probably as late as the sixth century of our era, by Greek astronomers to whom the planetary week (*infra*) was already a familiar institution. The modern Tamil and Urdu names of the week days are derived from the names of the sun, moon, and five planets.[60] The hebdomadal cycle employed in Burma, Siam, Annam and Cambodia was no doubt introduced by Indian Buddhists.[61] The seven-day week in China was also taken over from India, probably by the Buddhist missionaries.[62] The Mohammedan conquest of India, beginning with the invasion of the Punjaub in the seventh century, must have introduced the same septenary period into regions where it had not previously found entrance; in Malaysia, it is certainly

[60] E. Balfour, *Cyclopaedia of India*,[3] London, 1885, *s. vv.* "Month," "Week."

[61] Pinkerton, *op. cit.*, ix. 506 (Burma); *idem*, ix. 583 (Siam); Hastings, *op. cit.*, iii. 113, 350 (Cambodia and Annam).

[62] In the 8th century A.D., a Chinese document, *kieu-chī-li*, based on an Hindu original, apportions the days of the week to the sun, moon, and five planets in the well known astrological order. In some Chinese almanacs, Sunday is called the day of Mit = Mithra, the Sun. See Alexander Wylie, "On the Knowledge of the Weekly Sabbath in China," *Chinese Researches*, Shanghai, 1897, pp. 86–101; J. Edkins, *Chinese Buddhism*,[2] London, 1893, p. 211. In old Japan the week was unknown, the present seven-day week, with Sunday as an official holiday, being only recently introduced (Hastings, iii. 115).

the outcome of the expansion of Islam.[63] Thus it has been already noticed (*supra*) that the Javanese dropped their five-day week for the Mohammedan cycle; in the case of the Achehnese, who form a kingdom in Sumatra, not only has the seven-day week been borrowed but the people go so far as to make Friday, the Mohammedan sabbath,[64] a day *pantang* for all agricultural work, *pantang* being the native term for *tabu*.[65]

In another part of the world, on the west African coast, a seven-day week is employed by the Tshi- and Ga-speaking tribes, but here the evidence less certainly supports a theory of borrowing.[66] The Tshi- and Ga-cycles are strictly lunar, and do not run continuously through the year. Moreover, the other tribes of the Guinea coast employ cycles of five, six, eight, nine, and ten days which are undoubtedly of native origin. It is true that Mohammedan states were formed to the north of the forest country of the Gold Coast as early as the eleventh century after the Christian era; and it may be argued therefore that the west African seven-day week was taken over from Islam as appears to have been the case with the Mohammedan Mandingoes of Senegambia who have the same institution.[67] One would sup-

[63] Waitz, *op. cit.*, v. 169. For the astrological significance of the 7-day week among the Malays see W. W. Skeat, *Malay Magic*, London, 1900, pp. 548 *sq.*

[64] The Koran contains no directions for the religious observance of Saturday or Sunday, but on Friday (*Jum'ah*, the Day of Assembly) the people are directed to gather in the chief mosques for prayer and other exercises (T. P. Hughes, *Dictionary of Islam*, London, 1885, pp. 131, 666).

[65] C. S. Hurgronje, *The Achehnese*, Leiden, 1906, i. 261, 236. *Cf. supra* on the similar Polynesian naming of the Christian Sabbath.

[66] Ellis, *Tshi-Speaking Peoples*, 215 *sq.*; *idem*, *Yoruba-Speaking Peoples*, 142 *sq.* Ellis regarded the hebdomadal cycle in West Africa as purely of native origin (*Tshi*, 217). See also B. Cruickshank, *Eighteen Years on the Gold Coast of Africa*, London, 1853, ii. 189 *sq.*

[67] R. Caillié, *Travels through Central Africa to Timbuctoo*, London, 1830, i. 346. The market-day among the Mandingoes is held once every week as in west Africa. I have not been able to discover whether the Mandingoe week is periodic or lunar. If the former is found then the argument for the native origin of the Tshi lunar 7-day week would be much strengthened.

pose, however, that if borrowed, the Tshi seven-day week would run continuously through the months and the year instead of being so carefully adjusted to the length of the lunation. The investigation of the weeks used by peoples in the lower culture has been much neglected, and it would be interesting to learn if any other hebdomadal cycles can be found where no possibility of foreign influence exists.

With the exception of the west African week, it seems certain that all other examples of a seven-day week can be traced back to Oriental antiquity. It is highly probable that the hebdomadal cycle found among the Arabians is pre-Islamic; whether it was borrowed by them from the Hebrews or, as some Semitic scholars believe, from the Aramaeans, is a disputed question.[68] It is even possible that the institution in Arabia was of native origin.[69] Still other authorities have looked to Babylonia as the center whence the knowledge and use of the seven-day week was spread eastwards into Persia, westwards into Syria, Palestine and Arabia.[70] Whatever hypothesis be accepted, for the origin of the hebdomadal cycle employed for civil purposes we are brought back to the regions of anterior Asia inhabited by Semitic peoples in antiquity.

VI. THE BABYLONIAN "EVIL DAYS" AND *ŠABATTU*

15. THE "EVIL DAYS"

The late George Smith, fortunate above most explorers in the interest excited by his researches, when working over the cunei-

[68] Nöldeke, "Die Namen der Wochentage bei den Semiten," *Zeitschrift für deutsche Wortforschung*, 1901, i. 162.

[69] Nielsen, *Die altarabische Mondreligion*, 52 *sqq.* Since none of the ancient Arabian inscriptions contain a hemerology we have no monumental evidence as to the division of the month. The Harranians in Christian times appear to have reckoned in true lunar weeks and months (Nielsen, *op. cit.*, 79).

[70] E. Schrader, "Der babylonische Ursprung der siebentägigen Woche," *Theologische Studien und Kritiken*, 1874. xlvii. 343–53.

form literature in the British Museum found a tablet which referred to certain days of abstinence observed in ancient Mesopotamia. He writes: "In the year 1869, I discovered among other things a curious religious calendar of the Assyrians, in which every month is divided into four weeks, and the seventh days or 'Sabbaths,' are marked out as days on which no work should be undertaken."[1]

Shortly after this striking announcement Sir Henry Rawlinson published a portion of a calendar, the transcript of a much more ancient Babylonian original, which had been made by order of Asshurbanipal and placed in his royal library at Nineveh.[2] The calendar, which is complete for the thirteenth or intercalary month called Elul II, and for Marcheswan, the eighth month of the Babylonian year, takes up the thirty days in succession and indicates the deity to which each day is sacred and what sacrifices or precautionary measures are necessary for each day. All the days are styled "favorable," an expression which must indicate a pious hope, not a fact, since the words *û-ḫulgala* or *umu limnu* ("the evil day") are particularly applied to the seventh, fourteenth, nineteenth, twenty-first and twenty-eighth days. Such days would seem therefore to have possessed an indeterminate character: though naturally evil or unlucky, they could be made favorable or at least innocuous, provided the rules for their observance were faithfully followed. The second Elul, being an intercalated month, might be thought to have enjoyed a special significance, as intercalary months have had elsewhere (*supra*); but such an hypothesis will not explain the inclusion of the month Marcheswan in the calendar. Hence it is highly probable

[1] *Assyrian Discoveries,*' London, 1883, p. 12.

[2] Rawlinson, *Cuneiform Inscriptions of Western Asia,* London, 1875, vol. iv, pls. 32–33. A complete translation was given by Sayce, *Records of the Past,* London, 1876, 1st ser., vii. 157–68. *Cf.* also Zimmern, in E. Schrader, *Die Keilinschriften und das Alte Testament,*[3] Berlin, 1903, pp. 593 *sqq.* The complete series consisted of fifteen tablets. Of these, nos. 2 (II Nisan), 4 (Sivan), 8 (II Elul), 10 (Marcheswan), 12 (Tebeth), 13 (Shebat), and 15 (II Adar), have survived, in full or in part, but only tablets 8 and 10 have so far been published.

that at one time the other months were similarly marked, though as yet there is no certain evidence for the observance of the five "evil days" in all the months of the Babylonian year.

The choice of the seventh, fourteenth, twenty-first, and twenty-eighth days has obviously some relation to the number seven and its multiples. The difficulty which arises with respect to the inclusion of the nineteenth day has been solved to the satisfaction of most scholars by the suggestion that the nineteenth day was regarded as seven times the seventh day (*i. e.*, the forty-ninth from the first of the preceding month). The nineteenth day marked a "week of weeks."[3]

With regard to the reasons which dictated the choice of the seventh, fourteenth, twenty-first, and twenty-eighth days, two radically divergent views have been entertained. It has been argued, in the first place, that the "evil days" were selected as corresponding to the moon's successive changes; hence that the seventh day marks the close of the earliest form of the seven-day week, a week bound up with the lunar phases. According to a second opinion, the setting apart of every seventh day was due to a belief in the sanctity of the number seven among the Babylonians; hence the seven-day cycles were not regarded originally as quarters of the lunar month but rather as periods containing the sacred number of seven days, which, as a mere coincidence, happened to be roughly the fourth part of a lunation.[4] The latter hypothesis deserves extended consideration.

[3] *Cf.* Jensen, "Die siebentägige Woche in Babylon und Nineveh," *Zeitschrift für deutsche Wortforschung*, 1901, i. 152. The celebration of the nineteenth day may be further explained as the outcome of an old custom of reckoning by double months of sixty days. The fact is of considerable importance since it indicates that the nineteenth day was not divorced from the moon, being reckoned, as the other "evil" days, from new moon. Hommel has recently sought to show that in long months of 30 days the seventh, fourteenth, twenty-first and twenty-eighth were regularly observed, in short 29-day months, the fifth, twelfth, nineteenth [and twenth-sixth?]. But this is pure speculation ("Calendar [Babylonian]," in Hastings, *Encyclopaedia of Religion and Ethics*, 1911, iii. 76).

[4] For this second view *cf.* F. Delitzsch, *Babel and Bible*, London, 1903, pp. 101 *sq.*

a. The Cult of Seven and the Planetary Week

It is a familiar fact that various races have attached a special significance to certain numbers as good or evil, lucky or unlucky. To the primitive mind numbers, as well as names, are realities possessing their own proper virtue. To the number seven, in particular, a special importance has been ascribed by many peoples widely separated in space and time.[5] Were that number found predominantly among peoples who have a seven-day week we might be justified in always associating the two. The Todas, for example, attach a marked significance to the number seven and they also have a seven-day week.[6] On the other hand the west African peoples who employ an hebdomadal cycle do not to my knowledge consider seven a sacred number. Seven, again, is one of the Nandi unlucky numbers; among the Akikuyu of British East Africa, it is of all numbers the most unlucky in divination: but neither of these peoples has a seven-day week.[7] The same may be said of the Sea Dayaks, whose favorite number, after three, is seven.[8] In the opinion of most Americanists the sanctity of seven amongst many Indian tribes is the outgrowth of cosmical conceptions of the four cardinal points, reinforced by conceptions of a central, an upper, and a lower world.[9]

[5] For a useful collection of evidence see von Adrian, "Die Siebenzahl im Geistesleben der Völker," *Mitteilungen der anthropologischen Gesellschaft in Wien*, 1901, xxxi. 225–74.

[6] Rivers, *op. cit.*, 415.

[7] Hollis, *op. cit.*, 89; W. S. and Katherine Routledge, *With a Prehistoric People*, 264, 274.

[8] Brooke Low, in H. L. Roth, *Natives of Sarawak and British North Borneo*, London, 1906, i. 231.

[9] In New Mexico the Zuñi priests preserve a ceremonial diagram of the 7 "Ancient Spaces" or primeval cosmogonic areas, representing north, east, south, west, the zenith, the nadir and the middle. The observer is always supposed to stand in the central space. For illustrations of the cult of 7 among the Indians see J. W. Powell, in Cushing, *Zuñi Folk Tales*, New York, 1901, pp. xii. *sq.*; Hagar, in *Boas Anniversary Volume*, New York, 1906, p. 361 (Cherokee); Dorsey, in *Sixth Annual Report of the Bureau of Ethnology*, 397 (Osage, Kansa, Omaha, Dakota and Ponka tribes). *Cf.* also Brinton, "The Origin of Sacred Numbers," *American*

Whether these considerations can with safety be applied outside the American area is highly doubtful.

Roscher's exhaustive investigations have conclusively shown that the number seven enjoyed a mystic significance very early in Greek life, being especially prominent in the cults of Apollo and Dionysus.[10] The learned author believes that the important *rôle* of seven is to be found in its use as a divisor of the "light" month of twenty-eight days, this being in turn connected with the mysterious influence which the moon has been supposed to exert on nature and on human life.[11] He points out further that the old Pythagoreans in their philosophical and mathematical speculations appear to have recognized the seven-day period as arising from the quartering of the lunar month.[12] The influence of Babylonian astrological conceptions based on the cult of the seven planets must be certainly attributed to a subsequent period of Greek history. Their introduction only served to reinforce ideas

Anthropologist, 1894, vii. 168–73; *idem, Myths of the New World,*[8] Philadelphia, 1896, pp. 83 *sqq.* A suggestive but highly speculative treatment has been given by W J McGee ("Primitive Numbers," *Nineteenth Annual Report of the Bureau of American Ethnology,* 821–52), who believes that the germs of the number-concept starting with the Halves and advancing to that of the Quarters, must be traced back to prehuman conditions. Some students have seen in the much discussed swastika a symbol of the Four Quarters and of quadruplicate division in general (Cushing, "Observations relative to the Origin of the Fylfot or Swastika," *American Anthropologist,* 1907, n. s., ix. 334–36). Mrs. Zelia Nuttall has sought to apply these considerations to the common explanation of cults of 4 and 7 in India, Babylonia and Egypt as ultimately derived from cosmical conceptions ("The Fundamental Principles of Old and New World Civilizations," *Archaeological and Ethnological Papers of the Peabody Museum,* ii. 544 *sqq.*). The researches of Thomas Wilson have traced the wide diffusion of the swastika in both Asia and Europe. See his elaborate monograph "The Swastika," *Annual Report of the U. S. National Museum for 1894,* esp. 799–905.

[10] "Fristen," 49; "Sieben- und Neunzahl," 4–19, 67 *sq.*

[11] "Fristen," 4, 73 *sq.*; "Hebdomadenlehren," 157 *sqq.* *Cf. supra* for criticisms of this theory.

[12] "Hebdomadenlehren," 31.

of the sacredness of seven which were purely Greek in origin.[13] In the Semitic area, again, various students have been inclined to seek at least one root of the cult of seven in the observation of the Pleiades and the use of Pleiades calendars by the agriculturist.[14] This aspect of the problem has been worked out in one instance with much ingenuity by Grimme who discerns in the duration of the Hebrew Pentecost or Feast of Weeks (*Deut.*, xvi. 10) as well in the rites which marked that important agricultural festival the predominance of a septenary division based on the Pleiades.[15]

It is a well known fact that in ancient Babylonia seven enjoyed from a very early period, a high degree of sanctity.[16] According to the most recent investigations, seven was already a symbolic number in time of King Gudea. We meet it in magical rituals of the first Babylonian dynasty; and it comes to the front in the narrative of the Flood which seems to have assumed a written form as early as the third millennium B.C.[17]

[13] "Fristen," 71; "Sieben- und Neunzahl," 69; "Hebdomadenlehren," 161 *sq.* Still other students have seen in this sanctity of seven the results of early intercourse with the Semitic Orient through Phoenician channels (Bérard, in *Revue de l'histoire des religions,* 1899, xxxix. 426 *sqq.;* Thumb, "Die Namen der Wochentage im Griechischen," *Zeitschrift für deutsche Wortforschung,* 1901, i. 163 *sq.*). The theory of the diffusion of the cult of seven from the East might now be strengthened by substituting Cretan for Phoenician intermediaries.

[14] *Cf.* Zimmern, in Schrader, *Die Keilinschriften und das Alte Testament,*[3] 620 *sq.*

[15] H. Grimme, *Das israelitische Pfingstfest und der Plejadenkult,* Paderborn, 1907.

[16] For a very complete presentation of the evidence see Johannes Hehn, "Siebenzahl und Sabbat bei den Babyloniern und im Alten Testament," Leipzig, 1907 (*Leipziger semitistische Studien,* vol. ii. no. 5, pp. 4–44). See also von Adrian, *op. cit.,* 226 *sqq.;* J. Meinhold, *Sabbat und Woche im Alten Testament,* Göttingen, 1905, pp. 14 *sqq.;* Zimmern, in Schrader, *Keilinschriften,*[3] 459, 620 *sqq.;* Jensen, in *Zeitschrift für deutsche Wortforschung,* 1901, i. 151 *sqq.; idem, Kosmologie der Babylonier,* Strassburg, 1890, pp. 171–78.

[17] Hehn, *op. cit.,* 41 *sqq.* This writer would derive the sacredness of seven from the Sumerians (*idem,* 46).

It might therefore be argued with some plausibility that Babylonia formed the center from which the lore connected with seven passed to adjoining regions of western Asia and thence into other parts of the ancient world.[18]

Many Assyriologists have connected the symbolism of seven with the seven stars visible to the naked eye which traverse the celestial zodiac. For the Babylonian astrologers and astronomers these were the sun, the moon, and the five larger planets, Mercury, Venus, Mars, Jupiter, and Saturn.[19] But as the Italian astronomer Schiaparelli has remarked, to associate the sun and moon, bodies giving so much light, and of so appreciable a diameter with the five so much smaller planets is scarcely to be predicated of the earliest Babylonian cosmography. To perceive their common characteristic, *i. e.*, periodic movement within the zodiacal belt, prolonged and accurate observations are essential.[20] We

[18] *Cf.* von Adrian, *op. cit.*, 262 *sqq.* The marked predominance of seven among the Hebrews, if not wholly explained by borrowing from Babylonia, may reasonably be assumed to have been much influenced by Babylonian conceptions. On the Hebrew cult of seven see Hehn, *op. cit.*, 77–90; Meinhold, *op. cit.*, 20 *sqq.*; Zöckler, in Herzog, Plitt, and Hauck, *Realencyklopädie für protestantische Theologie*,[3] *s. v.* "Sieben."

[19] On the seven planets see Zimmern, in Schrader, *Keilinschriften*,[3] 620 *sqq.*

[20] *Astronomy in the Old Testament*, Oxford, 1905, p. 134. It is also necessary to have noticed that Mercury and Venus as morning stars are the same as Mercury and Venus as evening stars. This again is not what might be expected of primitive astronomy. The old Maori, for instance, regarded the morning and evening star as different planets. "*Tawera* is their Lucifer, and *Merimeri* their Hesperus; and under these two names the beauty of the planet Venus is frequently celebrated in their poetry" (Shortland, *Traditions and Superstitions of the New Zealanders*,[2] 219). Similarly the early Greeks held the morning star, Ἑωσφόρος, and Ἕσπερος, the evening star, to be different bodies, and their identity was not recognized until the time of Pythagoras in the 6th century B. C. (Roscher, *Ausführliches Lexikon der griechischen und römischen Mythologie, s. v.*, "Planeten," col. 2521). A similar misconception must have been true of the Babylonians among whom the planet Venus (*Dilbat*) as a morning star was considered masculine, and as an evening star feminine (Hehn, *op. cit.*, 48; referring to Rawlinson, *op. cit.*, iii. 53, 2). With regard to the Jews it has been argued by the astronomer previously cited

have no evidence that in the third or second milleniums before our era Babylonian astronomy had made such great attainments. Up to the present time it has not been possible to trace the Babylonian names of the seven planets and the order in which they appear to an earlier period than the seventh century, B.C.[21] It follows, therefore, that the cult of seven could not have originated in the observation of the seven planets, though it is quite conceivable that after their recognition the belief in the sanctity of seven was thereby much strengthened. It further follows that the so-called planetary or astrological week, in which the seven days are named after the planets must have developed long after seven-day weeks were known and generally used in western Asia.

The various problems raised by the study of the planetary week in its origin and diffusion need only be briefly treated in this connection. The astrological conception of the seven planets as rulers or regents of the week appears for the first time in Alexandrian speculations during the Hellenistic era. It is obvious that these ideas could not have been derived from the Jews who, on the testimony of the Old Testament, were familiar with not more than two planets, the morning star, Venus, and Saturn (*Isaiah,* xiv. 12; *Amos,* v. 26). The Jews moreover had no special names for the days of their week (except for the Sabbath), but indicated each day by the ordinal numbers, a practice still followed by Mohammedan peoples and by the Greeks, Slavs, and Finns in modern Europe. Nor can the origin of the week-day names be sought in Assyria or Babylonia; the Babylonians certainly associated some of their principal deities with the seven planets and even ascribed to every day in the month its appropriate divinity, but there is nothing in the cuneiform records to indicate a practice of specifically naming each day in the 7-day period after a planetary god or goddess. None of the week days, save perhaps the seventh (*infra*), appears to have been named at all. The most that can be said with any degree of certainty is that the belief in the influence of

that the two appearances of Venus in the morning and evening were thought of by them as two different stars with the name *Mazzaroth* (Schiaparelli, *op. cit.,* 48, 85 *sqq.,* 174 *sq.*), an interpretation, however, by no means certain.

[21] Ginzel, in *Klio,* 1901, i. 189. Nebuchadnezzar (605–561 B.C.) in the India House Inscription boasts of having raised a temple to the seven rulers of heaven and earth. Other instances reach back to Asshurbanipal of Assyria (668–626 B.C.).

the planets on human affairs goes back to Babylonia, the mother-land of astrology. During the Hellenistic era the mingling of East and West in such a cosmopolitan center as Alexandria made possible that strange mixture of Babylonian astrology with the cosmical conceptions derived from Pythagoras and his successors which gave rise to the astrological week with the planetary names.

The succession of the planets in the cuneiform inscriptions is vacillating. The most common order—Moon, Sun, Jupiter, Venus, Saturn, Mercury, Mars—does not throw much light on the well known grouping which gives the planets in the order of their distance from the earth—Moon, Mercury, Venus, Sun, Mars, Jupiter, Saturn; or, commencing with the highest planet and descending to the lowest—Saturn, Jupiter, Mars, Sun, Venus, Mercury, Moon. This arrangement has been traced back to Pythagoras and his school, though it is questionable whether it dates from an earlier period than the second or third century before our era. It is not until a much later period that we find any evidence in Occidental lands for a naming of the week days after the seven planets and hence for the planetary or astrological week. According to the well known principle, if the day be divided into twenty-four hours and each hour of the seven-day week be assigned to the several planets in turn, then Saturn will preside over the 1st, 8th, 15th, and 22d hours, the 23d hour will fall to Jupiter, and the 24th to Mars. The 25th hour, or the first hour of the second day, will belong to the Sun, the first hour of the third day to the Moon, and so on for the remaining week days. An inscription found at Pompeii gives the planetary names for the days of the week in the order still in use, except for the accidental omission of Wednesday.[22] In the second century Dio Cassius refers to the planetary week as well known to his time.[23] In spite of this fact the use of the planetary week did not become general in pagan antiquity; it is only in the 4th and 5th centuries, after the triumph of Christianity that the Latin Church which had formerly adopted the Jewish seven-day week, took over the planetary names for the week-days and so combined two institutions which previously had run in different though parallel paths. It is not improbable that we may see in this acceptance of the planetary order evidence for the growing influence of astrological superstitions introduced by Christian converts from paganism. The old beliefs in the power of the stars over human destinies lived on in the Christian communities; the heavenly bodies, though no longer deities, were still demons capable of affecting the fate of man. The Greek Church, however, never

[22] *Saturni, Solis, Lunae, Martis, Jovis, Veneris. Cf. infra* for the change from Saturday to Sunday as the first day of the planetary week.

[23] Dio Cassius, xxxvii. 18.

adopted the planetary names and has retained until the present day the simple numbering of the week days after the Jewish fashion.[34]

The preceding discussion has indicated that in different regions various considerations account for the special significance attached to seven, as to many other numbers. Within the same cultural area the widespread cult of a sacred number such as seven must likewise be explained by the operation of a variety of factors; and among these we are entitled to reckon the circumstance that the four phases of the moon divide the lunation into periods, approximately seven days in length. If the lunar changes were marked by special observances and prohibitions it might naturally result that their calendarizing into seven-day periods would give the number seven certain mystic or evil associations derived from these taboos, among a people so superstitious as the ancient Babylonians. It would follow, therefore, that the septenary periods disclosed in the calendar for Elul II and Marcheswan were not arbitrarily chosen because of an earlier belief in the symbolic meaning of the number seven. In the former chapters reasons have been given for the natural origin of the seven-day cycle in the quartering of a lunation; and much testimony has been adduced for the taboos which mark the close of the lunar phases or the septenary divisions based thereon. To the analogies from other regions may now be added the evidence yielded by the cuneiform records of Babylonia.

b. Babylonian Lunar Weeks

The Babylonian month, as has been seen, was a lunar month, and like all lunar months began at least theoretically, with the

[34] The diffusion of the planetary week has been treated with exhaustive learning by E. Schürer, "Die siebentägige Woche im Gebrauche der christlichen Kirche der ersten Jahrhunderte," *Zeitschrift für die neutestamentliche Wissenschaft*, 1905, vi. 1–66, an article which incorporates nearly everything of value in the earlier discussions of the problem. See further Roscher, "Planeten," *Ausführliches Lexikon*, etc., cols. 2518–39; *idem*, "Hebdomadenlehren," 164 *sqq.*; O. Schrader, *Reallexikon der indogermanischen Altertumskunde*, *s. v.* "Woche"; "Geschichte der Namen der Wochentage," *Zeitschrift für deutsche Wortforschung*, 1901, i. 150–93.

first appearance of the new moon (*supra*). The seven-day periods mentioned in the Rawlinson calendar were also reckoned from the new moon, a fact clearly indicated by the description for the first day of the month: *Umu I . . . inuma ina arḫi Sin innamaru. . . .* "The first day . . . when in the month the moon becomes visible." We may reasonably assume from our knowledge of the lunar reckonings among existing peoples that in Babylonia the last day of the month (when the latter was reckoned at 29 days), or the last two days of a 30-day month, were regarded as forming an epagomenal period which interrupted the regular succession of 7-day cycles. It is not impossible that the Babylonians who had estimated very closely the length of the moon's synodic course, may have employed some such device as that of the Gold Coast natives (*supra*) in order that four of their lunar weeks should correspond exactly to the lunation.

We may next inquire whether there is any additional evidence which indicates that the 7-day periods had a natural origin in the quartering of a lunation. It has already been noticed that in the third millennium B.C. the Babylonians were probably familiar with a 5-day period called *ḫamuštu* which has been taken to constitute a civil week. Whether it preceded the hebdomadal cycle or afterwards supplanted it, perhaps as forming a closer divisor of the lunation, or whether the two periods may not have existed more or less contemporaneously within the Babylonian area, are matters concerning which the cuneiform records tell us nothing. We know, however, that the 5-day periods were closely associated with the successive appearances of the moon (*supra*); and the same associations are even more clearly exemplified in the case of the hebdomadal cycle.

From a remote antiquity the Babylonians observed the lunar phases with special care and reckoned with remarkable accuracy the length of both the synodic and sidereal months.[25] In the fifth tablet of the Creation series, documents which in their original

[25] On this subject see F. K. Ginzel, "Die astronomischen Kenntnisse der Babylonier und ihre kulturhistorische Bedeutung," *Klio*, 1901, i. 12 *sqq.*, 200 *sqq.*

form are traced to the close of the third millennium, it is told how Merodach or Marduk, having created and ordered the heavenly bodies, then placed the moon in the sky to make known the days and divide the month with her phases. Although this interesting production in its mutilated state mentions only the seventh and fourteenth(?) days we are entitled to believe that the original text also referred to the twenty-first and twenty-eighth days, as is indicated in the translation given below.[26] In another record of later date, the seventh, fourteenth, twenty-first and twenty-eighth days are specifically indicated as the days of Sin, the moon-god.[27] That these four days enjoyed a special significance is further indicated by a passage in an omen calendar which declares that the appearance of a halo about the moon on the seventh, fourteenth, twenty-first and twenty-eighth days is to be considered as an eclipse of that luminary.[28] In Babylonian astrology an eclipse

[26] Lines 12 *sqq.*:

> "Nannar, the moon-god, he brought forth, and entrusted the night to him;
> Placed him there, as a luminary of night, to mark off the days;
> Month after month, he fashioned him as full moon (saying):
> 'At the beginning of the moon, when evening begins,
> Let thy horns shine, to mark off the heavens;
> On the seventh day make half the disk,
> Stand perpendicular . . . with thy first half;
> When at sunset thou risest on the horizon
> Stand opposite her [on the 14th] in brightest splendor
> [From the 15th] on, approach again the course of the sun.
> [On the 21st] stand perpendicular again to the sun,
> [From the 22nd] on . . . to seek his course
> [On the 28th to the sun] approach and hold judgment.'"

I have used the version by W. Muss-Arnolt (R. F. Harper, *Assyrian and Babylonian Literature*, New York, 1901, p. 296). See further, L. W. King, *The Seven Tablets of Creation*, London, 1902, i. 78 *sqq.* The expression "stand perpendicular" on the 7th and 21st days refers to the moon's position as regards the earth or the sun—that is, the meridian—in which she stands at sunset when in her first or last quarter.

[27] Rawlinson, *op. cit.*, iii. 64, 18b. In the period following Hammurabi (*c.* 1900 B.C.) Nannar and Sin are thoroughly identified.

[28] *Ibid.*, iii. 64, series *Sin ina tamartišu.*

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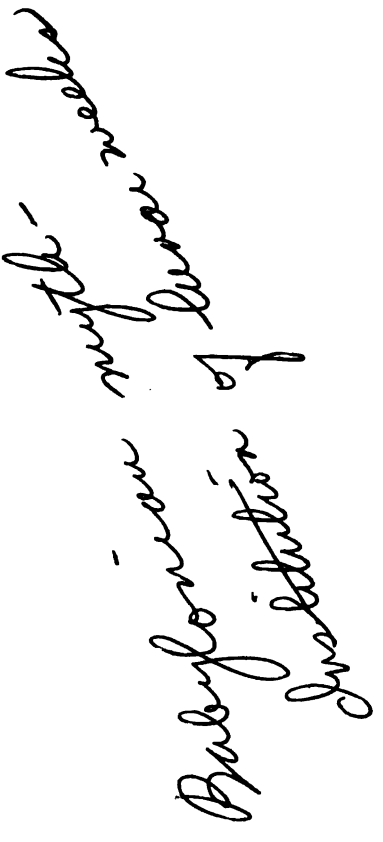

ular application of a widespread and generally accepted superstition.

The Rawlinson calendar contains specific directions for the observance of the five evil days, in each instance the same except for differences in the names of the deities.[31] The regulations for the seventh day read as follows:

"The seventh day is a fast of Merodach [Marduk] and Zirpanitum, a fortunate day, an evil day. The shepherd of the great peoples shall not eat flesh cooked by fire, which is smoked[32](?), he shall not change the dress of his body, he shall not put on white, he shall not make an offering. The king shall not ride in his chariot, the priestess shall not declare (a divine decision), in secret spot a seer shall not make (an oracle), a physician shall not lay his hand on a sick man, (the day) is unsuitable for doing business."[33]

In the light of the illustrations which have been previously given, it is clear that the regulations for the "evil days" prescribe a season of abstinence affecting many royal activities. The "shepherd of the great peoples" is to abstain from cooked meat

[31] For discussions of the evil days from various points of view see Jensen, *op. cit.*, 153; Meinhold, *op. cit.*, 15 *sqq.*; Friedrich Bohn, *Der Sabbat im Alten Testament*, Gütersloh, 1903, pp. 39–43; Hehn, *op. cit.*, 106–09; Lagrange, *Études sur les religions sémitiques*,[2] Paris, 1905, pp. 291 *sqq.*

[32] On the nineteenth day "the shepherd of the great peoples" is forbidden to eat "anything which the fire has touched."

[33] I have used the version by Pinches (*Proceedings of the Society of Biblical Archaeology*, xxvi. 52. The text has been frequently translated and for purposes of comparison I add the rendering given by Thompson (*op. cit.*, pp. xlviii *sq.*): "The seventh day is the festival day of Marduk and Ṣarpanitum. A happy (?) day. An evil day. The shepherd of the wide-spreading peoples must not eat flesh that has been cooked over coals, nor bread (cooked) in ashes. He must not change the clothes of his body, nor put on white garments. He must not offer sacrifices. The king must not ride out in his chariot, and must not utter decisions in a secret place. The physician must not lay his hand on the sick. It is unfitted for making a curse. In the evening the king should make offerings and offer sacrifice to Marduk and Ishtar; his prayer will be pleasing unto the god."

and on the nineteenth day from all cooked food.[84] He is not to change his clothes or put on white (*i. e.,* festive) raiment; he must not offer sacrifices. The king is even forbidden to be seen out of doors in his chariot. It is evident that the Babylonian ruler who observed these regulations five times a month would have been almost as strictly secluded as the Hawaiian monarch, who likewise, during the four monthly *tabu* periods retired to the precincts of his temple (*supra*).

It has been usually held that these regulations are survivals from ancient times when priest-kings were accredited with a divine or supernatural nature. On this theory they would be analogous to those prohibitions which in primitive society, as Dr. Frazer has so well shown, envelope the lives of chieftains and rulers "in an ocean of rites and taboos."[85] The king is the representative of his people; his prosperity results in a like prosperity for his people; if he sins, the whole country sins and suffers with him. The subject has been aptly illustrated by the regulations to which in former days the Mikado of Japan was subject, by the countless rules which fettered the lives of Egyptian monarchs, and by those curious *geasa* or taboos, once observed by the ancient rulers of Ireland.

A consideration of the evidence yielded by primitive societies leads me to suggest, however, that the Babylonian regulations may have been, at least in part, the broken-down form of taboos imposing abstinence on the community at large. In Hawaii, where the four lunar phases were observed as *tabu* periods, the prohibitions affecting the king represented only an intensification of the communal taboos, to be explained by the extreme sanctity attached to the Hawaiian ruler. In Assam, where the *genna* institution enjoys a vigorous life (*supra*), we find that besides the prohibitions communally observed at critical times the *genna-bura* or priest-chief is surrounded with many elaborate taboos. Their

[84] Taboos relating to the use of fire are discussed elsewhere (*infra*).

[85] For much evidence as to the sacredness of chiefs and kings and the accompanying taboos see Frazer, *The Golden Bough,*[2] London, 1900, i. 233–47; *idem, Psyche's Task,* London, 1909, pp. 4–16.

purpose is "to protect the man who acts on behalf of the whole subdivision or village on the occasions of general *gennas*, from any accident which might impair his power." He is subject to various food restrictions, must content himself with only one wife, and must even separate himself from her on the eve of a general *genna*. In one group the headman may not eat in a strange village, nor, whatever the provocation, may he utter a word of abuse. The violation of any one of these taboos is thought to bring misfortune on the entire village.[36] It is not wholly speculative to suggest that were the natives of Assam, with advancing culture, to discard their communal taboos as burdensome, the special regulations affecting the *genna-bura* might survive, in deference to old tradition, and might even be increased in severity if that individual should likewise grow in authority and holiness. The situation would then furnish a very close analogy to what existed in ancient Babylonia. The regulations concerning the "evil days," it may be noted, do not concern the king alone. We may reasonably assume that "the shepherd of the great peoples" and the king mentioned further on in the hemerology are one and the same; but the record also describes certain rules imposed on the priest (or priestess) and on the physician, both important functionaries among the Babylonians. It seems also evident that the day was generally regarded as unsuitable for any one to lay a curse or ban; according to other but possibly less accurate renderings, unsuitable for all business. These considerations increase the probability that at one time some taboos on the seventh day were observed by the entire community.

It is, however, questionable whether in late historic times there was any general abstention from work and other activities on the "evil days." The Babylonians were a highly organized commercial and manufacturing people who would have found such regulations burdensome to the highest degree. Possibly taboos once communally observed were gradually relaxed and at last abandoned, just as modern Jews are now neglecting the observance of

[36] Hodson, in *Journal of the Anthropological Institute*, 1906, xxxvi. 98. *Cf. idem*, in *Folk-Lore*, 1910, xxi. 298.

the Sabbath. The practice might have been kept up, however, by the king and the priests as the special guardians of conservative institutions.[37]

17. THE ŠABATTU

The cuneiform records contain a term *šabattu* (*m*) or *šapattu* (*m*) which has been generally accepted as the phonetic equivalent of the Hebrew *šabbāthon* (*infra*). The Assyrian-Babylonian expression does not occur in such a connected text as the hemerology for the month Elul the second. Up to the present it has been found only three or four times in the inscriptions.[38] One of these cases is that of a cuneiform lexicographical tablet containing the equation: *ša-bat-tu*(*m*) = *ûm nū-ūḫ lib-bi*.[39] The

[37] An interesting effort to discover whether there was any general observance of the Babylonian evil days was made by the late astronomer, G. Schiaparelli (*Astronomy in the Old Testament*, 132 *n.*[1], 175 *sqq.*). The examination of 3148 documents of the period 604–449 B.C. led him to the conclusion that there was no marked falling off of business on any of the five days. It is, of course, true that these statistics deal with a late period in Babylonian history and include the reigns of several Persian rulers. By this time the general observance of the custom may have been in decay. Moreover the criticism is valid that the figures do not distinguish the sort of business done on those days. Many of the documents are temple records relating to offerings, receipts of salaries by priests and so on. Such business was possibly not regarded as a violation of the prohibitions in question (*Cf.* C. H. W. Johns, "The Babylonian Sabbath," *Expository Times*, 1906, xvii. 566–67). In his *Assyrian Deeds and Documents*, London, 1901, ii. 40 *sqq.*, the same author has pointed out that in Assyria during the period 720–606 B.C., the seventh, fourteenth, twenty-first, and twenty-eighth days do not show any marked abstention from secular business. But out of 365 dated documents only 2 were dated on the nineteenth. Again in Babylonia out of 356 dated documents of the Hammurabi period only 2 again are dated on the nineteenth and only 26 on the four other evil days. At this earlier epoch, if such evidence be accepted, there would seem to have been a marked abstention in Babylonia on the aforesaid days.

[38] The evidence is cited by Jensen (*Zeitschrift für deutsche Wortforschung*, 1901, i. 153).

[39] Rawlinson, *op. cit.*, ii. pl. 32, l. 16 a–b. The reading *šapattu* is also possible (Zimmern, in Schrader, *Keilinschriften*,[3] 592 *n.*[5]). The discovery of this important equation seems to have been first made by Boscawen. *Cf.* Sayce, in *Academy*, 1875, viii. 555.

usual translation of the latter is "day of rest of (or for) the heart" (*s. c.*, "of the angered gods"). Various scholars in England and Germany, intent on discovering Babylonian parallels for all Hebrew institutions, have therefore explained *šabattu* and its equivalent phrase by the five "evil days" found in the calendar already noticed.[40] This identification was based on the observation that the "evil days" seemed also to be penitential days when by special observances the gods must be appeased and their anger averted. The Hebrew Sabbath would therefore represent an institution directly derived from the Babylonian regulations for the "evil days."

Until the present time, however, Assyriology has sounded no certain note concerning the etymology and significance of the term *šabattu*. Thus Delitzsch holds that "the only meaning that may be justifiably assumed is 'ending (of work), cessation, keeping holiday from work.'"[41] As the result of linguistic analysis Hirschfeld concludes, on the contrary, that "the idea of resting for religious reasons after a certain spell of working days is far too complicated to be the original meaning of a primitive root."[42] Jastrow, again, points out that *ûm nūḫ libbi* with which *šabattu* has been provisionally equated, was a standing expression for the pacification of a deity's anger. It occurs frequently in Babylonian religious literature, where it is more particularly used in hymns addressed by penitentials to some god who has shown his ill-will to them. *Šabattu* implies therefore a day of propitiation and the idea of rest involved refers to gods and not to men—a refraining from or cessation of divine anger.[43] Zim-

[40] *Cf.* Sayce, *The Higher Criticism and the Verdict of the Monuments,*[5] London, 1895, p. 74; Delitzsch, *Babel and Bible,* 41; Zimmern, in Schrader, *Keilinschriften,*[2] 593. The purely conjectural character of this procedure was pointed out as early as 1882 by Francis Brown in his article, "The Sabbath in the Cuneiform Records," *Presbyterian Review,* iii. 693. *Cf.* also A. T. Clay, *Amurru,* Philadelphia, 1909, pp. 55 *sqq.*

[41] *Babel and Bible,* 99.

[42] Hirschfeld, "Remarks on the Etymology of Šabbāth," *Journal of the Royal Asiatic Society,*" 1896, n. s., xxviii. 358.

[43] Jastrow, "The Original Character of the Hebrew Sabbath," *American Journal of Theology,* 1898, ii. 316 *sq.*, 351.

mern suggests that *šabattu* may be derived from the verb *šabâtu* with the sense of "discontinue" or "desist" applied to the anger of the gods.[44] Pinches on the contrary, believes that *šabattu* comes from the Sumerian *ša-bat* which probably had no connection with the Semitic verb *šabâtu*.[45] Nielsen, who like Pinches, derives *šabattu* from *šabat*, goes still further afield for a satisfactory explanation, and considers *šabat* a term taken over from the Arabian *thabat* from a root meaning "rest" applied to the lunar phases.[46] As the outcome of extensive philological study Hehn argues that *šabattu* meant originally "fullness," "completeness," the notion of rest being later and entirely secondary.[47] Finally, in a brief, though highly suggestive study, Professor Toy holds that the root idea in the Babylonian expression was that of abstinence, though *šabattu* might also have been regarded as a day of propitiation because of the restrictions attached to it.[48]

These conflicting interpretations scarcely make for confidence in the results of a purely philological analysis. A late discovery, however, has thrown new and unexpected light on the problem. We now know, with certainty, that the term *šabattu* (*šapattu*) was applied to at least one day in the Babylonian month. Mr. T. G. Pinches has recently published a list of the Sumerian and

[44] Zimmern, in Schrader, *Keilinschriften,*[3] 593. In one cuneiform list (Rawlinson, *op. cit.*, v. pl. 28, l. e–f) the verb *šabâtu* is equated with *gamâru* which is thought to mean "be complete," "be full," though in some other syllabaries it apparently has the sense of "pacify." In the light of the meaning now assigned to *šabattu* both translations appear to be intelligible and harmonious.

[45] T. G. Pinches, *The Old Testament*, London, 1902, p. 327.

[46] Nielsen, *Die altarabische Mondreligion*, 87 *sq.* He also sees in *šabat* a variant of the Babylonian *šubtu* used as a *terminus technicus* for the moon-stations (*op. cit.*, 69).

[47] "Siebenzahl und Sabbat," 98.

[48] C. H. Toy, "The Earliest Form of the Hebrew Sabbath." *Journal of Biblical Literature*, 1899, xviii. 190 *sqq.* The author in this article was the first to recognize the original identity of the Sabbath and primitive seasons of taboo.

Babylonian names of the days of the month in which the 15th day is called *šapattu.*[49] The choice of the 15th day has obviously some reference to a two-fold division of the lunar month, which in the earlier Babylonian period seems to have consisted regularly of thirty days. The 15th is the day of the full moon in the middle of the month. There is good evidence, however, for believing that the Babylonian months in the later period consisted of twenty-nine and thirty days in alternation (*supra*). When the month had twenty-nine days, the fifteenth day or *šabattu* would accordingly be equivalent to the fourteenth day from new moon, as reckoned in the Babylonian list of "evil days."[50]

Though as yet the data cannot be supplied from the cuneiform records we may now be well nigh certain that the term *šabattu* was likewise applied to the other "evil days" (seventh, twenty-first and twenty-eighth, perhaps also, the nineteenth), since all possessed the same character as periods marked by the observance of lunar taboos; and we may now understand why *šabattu* should be equated with the expression *ûm nūḫ libbi* as a day of rest for the heart, or a day for appeasing the anger of the deity. In the developed Babylonian cult the "evil days" were occasions when the gods must be propitiated and conciliated. In the primitive faith of the Semitic peoples they were occasions marked by the changes of the moon and observed with superstitious concern as times of fasting, cessation of activity, and other forms of abstinence.

[49] "*Sapattu,* the Babylonian Sabbath," *Proceedings of the Society of Biblical Archaeology,* 1904, xxvi. 51–56. The tablet containing the list formed a part of the library of Asshurbanipal. A portion of this list was published in Rawlinson, *op. cit.,* iii. pl. 56, no. 4, and additions to it were subsequently identified by Pinches. See also the comments by Zimmern in *Zeitschrift der deutschen morgenländischen Gesellschaft,* 1904, lviii. 199–202, 458–60. A division of the month found in K. 170 (*Cuneiform Texts,* xxv. 50) gives first day, new moon; seventh day, moon as kidney (half-moon); fifteenth day, full moon. *Cf. supra.*

[50] The remarkable parallel afforded by the Buddhist *uposatha,* a full-moon day celebrated on the fifteenth of "long" months, the fourteenth of "short" months, has already been discussed (*supra*).

VII. THE HEBREW SABBATH

18. THE SABBATH IN THE OLD TESTAMENT

The earliest Biblical references to the Sabbath all indicate that the institution had long been found among the Hebrews. It appears in the most ancient documents of the Law such as the two Decalogues[1] and the First Code,[2] and forms a central feature of regulations the majority of which in content, if not in form, are almost certainly pre-Exilic. It is mentioned in the Books of Kings during the time of the prophet Elisha.[3] It is noticed in the prophecies of Amos and Hosea.[4] The antiquity of the Sabbath is further indicated by the fact that Israelitish tradition preserved no certain information of its origin. From the Old Testament we cannot tell whether the Sabbath was hallowed in remembrance of Jehovah's rest after the Creation,[5] or whether it was instituted as a memorial of the serfdom of the Hebrews during their sojourn in Egypt.[6] Assuming, as do most reputable critics, that the narrative in the first chapter of Genesis which divides the work of creation into six days is comparatively late, it follows that the Sabbath could not have been founded as a reminiscence of the completion of the Creation. The author must have been familiar with the institution of a seven-day week ending in a Sabbath. Its chief characteristic was then that of a day of rest as appears from the fact that without mentioning

[1] The form of the Fourth Commandment in the First Decalogue (*Exodus,* xx. 8), "Remember the Sabbath day," etc., itself may indicate not the institution of a new day but the sanctioning of an old one. In the Second Decalogue (*Deuteronomy,* v. 12), the commandment reads: "Observe the Sabbath day." Perhaps, however, "remember" is merely equivalent to "keep in mind in the future."

[2] *Exodus,* xxiii. 12.

[3] *2 Kings,* iv. 23.

[4] *Amos,* viii. 5; *Hosea,* ii. 11.

[5] *Exodus,* xx. 11. *Cf.* xxxi. 17.

[6] *Deuteronomy,* v. 15. *Cf. Nehemiah,* ix. 14; *Ezekiel,* xx. 12. The chief Old Testament references to the Sabbath have been grouped in their assumed historical order by E. G. King, "The Sabbath in the Light of the Higher Criticism," *Expository Times,* 1906, xvii. 438–43.

the Sabbath by name he seeks to glorify it by placing the hallowed character of the seventh day at the beginning of the world. The sanctity of the seventh day is in reality antedated, and the priestly writer wished to adjust artificially the work of creation to it.[7]

The earlier theories which have been advanced to account for the origin of the Sabbath now possess only an historical interest. Writing in the seventeenth century the learned John Spencer argued that Egypt was the original home of the institution, since in various Old Testament passages the Sabbath is declared to have been established to commemorate the escape from Egyptian bondage. But the Egyptians, as we know (*supra*) employed ten-day periods, and there is no evidence that in historical times they were familiar with any shorter division of the month.

Another and more common theory associated with the great names of Kuenen and Baur, connects the Sabbath with the worship of Saturn from which planet the first day of the astrological week received its name (*infra*). It is true that in addition to Venus the name of another planet familiar to the Hebrews may with great probability be recognized in the name *Kaivan* or *Kēwān* mentioned by the prophet Amos who was apparently reproving the Jews of his time for revering Saturn.[8]

[7] *Cf.* Jastrow, "The Original Character of the Hebrew Sabbath," *American Journal of Theology*, 1898, ii. 313 *sq.*; S. R. Driver, *The Book of Genesis*,[8] London, 1906, p. 35. Canon Cheyne suggests that the priestly writer in *Genesis* ii. 2 *sqq.* appears to accept the anthropomorphic view which finds such frequent expression in Oriental antiquity. Things on earth correspond to things in heaven; if God "rested" on the seventh day man ought to do likewise (*Traditions and Beliefs of Ancient Israel*, London, 1907, p. 70).

[8] Schiaparelli, *op. cit.*, 48 *sq.* *Kaivan* was the name of Saturn among the ancient Arabs and also among the Assyrians. Doubtless the astrological practices associated with the planet were borrowed from Babylonia. I can see no justification for Budde's suggestion that Amos was imputing Saturn worship to ancient Israel in the period of the desert wanderings, rather than to the Israel of his own day (*Religion of Israel to the Exile*, New York, 1899, p. 68). The words of Amos may be translated (though the text is corrupt): "And ye shall take *Sakkut* your king and *Kēwān*, the star of your god, images which ye made for yourselves" (*Amos*, v. 26; *cf. Acts*, vii. 40).

But a sporadic adoration of this planet at a degenerate period in Hebrew life when the Chosen People were giving themselves over to astrology, divination, and the worship of the heavenly bodies, is scarcely sufficient to account for an institution which reaches back to the beginnings of Israelitish history. At a much later date the Jews became familiar with the astrological notions concerning the influence of the planets on human destinies and with the assignment of the seven week days to the seven planets. These imported superstitions appear to have led the rabbis to call Saturn *Shabbti,* "the star of the Sabbath." Here, however, we have not a naming of the day after the star, but a naming of the star after the day. It is only in the first century A.D. that we find any certain evidence that the Jewish Sabbath always corresponded to Saturn's day or Saturday.[9]

Putting aside such outworn theories a brief reference may be made to those which account for the Sabbath as partly a borrowed institution. To hold, as many pan-Babylonians have

[9] *Cf.* W. Nowack, *Lehrbuch der hebräischen Archäologie,* Strassburg, 1894, ii. 141 *sq.;* Schürer, in *Zeitschrift für die neutestamentliche Wissenschaft,* 1905, vi. 6 *sq.,* 19. Saturn came to assume the *rôle* of *sidus tristissimum* or *stella iniquissima* and hence to the Romans Saturday appeared to be a day of bad omen. The oldest reference to Saturday is that given by Tibullus who died in 19 B. C. (*Saturni aut sacram me tenuisse diem, Elegiae,* i. 3, 18). This line may possibly refer to the Jewish Sabbath; at any rate it seems probable that the evil associations of the day were due to the diffusion of the Jewish Sabbath which was known to the Romans (though imperfectly) as early as the last century of the Republic. Dio Cassius (xxxvii. 17) speaks of the Jews having dedicated to their God the day called the day of Saturn "on which, among other peculiar actions, they undertake no serious occupation." There is an old Talmudic story which tells how Moses, having arranged with Pharaoh for a day of rest to be observed by the Hebrews, was asked what day he thought most suitable for the purpose. Moses answered: "The seventh, which is dedicated to the planet Saturn; works done on this day do not, as a rule, prosper in any case" (Delitzsch, *Babel and Bible,* 102). In modern Bengal, *Sani* or Saturn is much dreaded and is carefully propitiated, either on Saturdays, or on particular occasions when astrological calculations indicate that a visitation from him is to be specially feared (Gait, in *Census Report,* 1901, i. 189).

done (*supra*), that the Sabbath was a direct importation from the regions of the Tigris and the Euphrates, is a hypothesis incapable of substantiation from the existing evidence at our disposal. Although we may be reasonably sure that the term *šabattu* was applied to all the evil days in the Rawlinson calendar there is no certainty that the Babylonians observed those days as times of abstinence during the age when Hebrew culture came most in contact with that of the Mesopotamian peoples. In the present state of our knowledge it can only be argued, and this with great plausibility, that the observance of tabooed days in connection with the phases of the moon goes back to a period of remote antiquity before the various Semitic peoples had journeyed to the homes where, in historical times, we find them.

The theory that the Sabbath reaches back ultimately to Babylonia has sometimes been modified into the hypothesis that it was first taken over from Babylonia by the agricultural inhabitants of Canaan, from whom, in turn, the Israelites borrowed an institution which would have no meaning to a nomadic people.[10] Even were we to assume, however, that the Sabbath from its beginning was an institution of peasants and not of nomads, it may be suggested that it was probably of high antiquity. It is a grave question whether there is any Old Testament evidence that the ancestors of Israel there described were in the solely pastoral stage. Recent studies appear to have pushed back the agricultural life of the early Hebrews to the time of Abraham. The patriarchs would seem to have been regularly agriculturists, who kept in addition flocks of sheep and herds of cattle,—a combination of the shepherd's and the farmer's life which can be paralleled among many primitive tribes.

But these are minor considerations. The view, so frequently expressed, that the Sabbath cannot be very primitive since it "presupposes agriculture and a tolerably hard-pressed working-day life,"[11] betrays an imperfect acquaintance with popular super-

[10] *Cf.* Nowack, *op. cit.*, ii. 144; Gall, in *Archiv für Religionswissenschaft*, 1902, v. 321.

[11] J. Wellhausen, *Prolegomena to the History of Israel*, Edinburgh, 1885, p. 114. The same argument has been urged by W. E. Addis, *Documents*

stition. The brief prohibitions of work found in the Pentateuch cannot be separated, by any subtleties of exegesis, from the numerous other taboos with which the institution was invested. The rest on the Sabbath is only one of the forms of abstinence in connection with the lunar changes; and if the Sabbath began as a festival at new moon and full moon it may well have been celebrated by the Israelites before their contact with Canaanitish culture. The origin of the Sabbath can only be explained when it is pushed back to a prehistoric age long antedating the cult of Jehovah, the establishment of a ritualistic religion, and the formation of a priestly class. The ancient dwellers in the Arabian wilderness who celebrated new and full moon as seasons of abstinence and rest little dreamed that in their senseless custom lay the roots of a social institution which on the whole, in past ages, has worked for human welfare, and promises an even greater measure of benefit to humanity in all future times.

19. THE SABBATH AS A LUNAR FESTIVAL

To a shepherd people in tropical or semi-tropical lands the moon is a gentle guardian, bringing restful coolness after the day with its withering heat, and dispelling with her kindly beams the thick darkness which may cloak a lurking foe. "This," writes an intrepid traveller, "is the planet of way for the wayfaring Semitic race. The moon is indeed a watch-light of the night in the nomad wilderness; they are glad in her shining upon the great upland, they may sleep then in some assurance from their enemies."[12] The worship of the moon as a masculine divinity was highly developed among the south Arabians, as Glaser's discoveries have shown and also among the Harranians.[13]

of the Hexateuch, London, 1892, i. 139; *idem*, *Hebrew Religion to the Establishment of Judaism under Ezra*, London, 1906, p. 85.

[12] C. M. Doughty, *Travels in Arabia Deserta*, Cambridge, 1888, i. 366.

[13] See generally on this subject, F. Hommel, *Der Gestirndienst der alten Araber und die altisraelitische Überlieferung*, München, 1901, and D. Nielsen, *Die altarabische Mondreligion und die mosaische Überlieferung*, Strassburg, 1904, both, however, very untrustworthy guides.

It was not perhaps by accident that the Old Testament makes Abraham dwell at Ur and Harran, for both were centers of an ancient moon cult[14] and both lay beyond the limits of the Babylonian plain on the confines of a desert overrun by nomad Arab tribes. Nor was it strange—if we may further follow a somewhat speculative inquiry—that Moses should have led the Israelites to Sinai (the Mount of Sin or the moon), to receive the Law. As late as the close of the sixth century B.C., the peninsula of Sinai was devoted to lunar worship.[15] That the moon-god Sin anciently had precedence over Shamash the sun-god has been shown by various writers who place the chief centers of Babylonian sun-worship east of the Euphrates.[16]

To the Israelites, as to the ancient Egyptians, the moon was preëminently the "wanderer" by whose movements the earliest calendars were framed.[17] One of the Hebrew names for

[14] Nannar at Ur (Uru) in western Chaldea, Sin at Harran (Haran) in northern Mesopotamia. It is curious to find a Moslem tradition current about 850 A.D., that "Abraham lived with his people four-score years and ten in the land of Harran, worshipping none other than Al Ozza, an idol famous in that land and adored by the men of Harran, under the name of the Moon, which same custom prevails among them to the present day." (*Apology of Al Kindy*, 17; A. S. Palmer, *Babylonian Influence on the Bible*, London, 1897, p. 2).

[15] Pinches, "Moon," in Hastings, *Dictionary of the Bible*, iii. 434.

[16] Nielsen, *op. cit.*, 31 *sq.*; Jastrow, *Religion of Babylonia and Assyria*, pp. 68, 75 *sq*; L. W. King, *Babylonian Religion and Mythology*,[2] London, 1899, pp. 17 *sq*.

[17] Like the Babylonian, the Hebrew lunar year consisted of 12 months, adjusted to the tropic or seasonal year by the intercalation of a thirteenth month. The name of the latter is first met in the Mishna occurring there as the "second Adar." In the Mishna, also, the number of days in a lunar year is fixed at 354. The months consisted of 29 days (hence called "defective"), or of 30 days ("full" months), but there seems to have been no uniform sequence of long and short months. The regulation of the month was probably at first in the hands of the priests and later was committed to the Sanhedrin. A solar year of 364 days, *i. e.*, 52 complete weeks, is found in two pseudographia which date probably from Maccabaean times (Book of Enoch and Book of Jubilees), but it is hardly likely that solar reckonings were then in general use. On this subject consult Poznański, "Calendar (Jewish)," in Hastings, *Encyclopaedia of Religion and Ethics*, iii. 117 *sqq*.

"month" is *yérah*, from *yārēah*, "moon"; it is called also *ḥodesh* which means new moon. In one of the most magnificent of the Psalms we read that Jehovah "appointed the moon for the seasons"[18]; all the Jewish festivals, like those of the Hawaiians, were determined by the moon. At the same time there is almost no Biblical testimony to indicate that the primitive Hebrews ever conceived the moon as a divinity and addressed to that luminary specific acts of worship. The only reference to a lunar cult in the Old Testament where the kissing of the hand to the moon is mentioned[19] may have meant little more than do some of our own popular superstitions regarding the moon. In any case, one can hardly build up a theory of an original worship of the moon among the early Israelites on the basis of a single passage, and that more or less obscure.

The evidence seems quite conclusive that of the lunar phases it was especially the new and the full moon which first aroused the attention of the Semitic nomads and evoked feelings of awe and veneration. Even to-day "the first appearing of the virgin moon is always greeted with a religious emotion in the deserts of Arabia."[20] In modern Palestine when the Bedouin and Fellahin first see the lunar crescent, they exclaim: "God's new moon has appeared in his exaltedness. May it be for us a blessed new moon."[21] The Harranians, who long retained their ancient customs, held a new moon festival as late as the eleventh or twelfth century of our era. On the twenty-seventh day of the lunar month offerings were made to the moon and the occa-

[18] *Psalms*, civ. 19. *Cf. Ecclesiasticus*, xliii. 6–8: "He made the moon also to serve in her season for a declaration of times, and a sign of the world. From the moon is the sign of feasts, a light that decreaseth in her perfection. The month is called after her name, increasing wonderfully in her changing . . . "

[19] *Job*, xxxi. 26.

[20] Doughty, *op. cit.*, ii. 305 *sq.* *Cf.* Nielsen, *op. cit.*, 50. For the interesting Abyssinian customs see Littmann, in *Archiv für Religionswissenschaft*, 1908, xi. 313 *sq.*

[21] (Mrs.) H. H. Spoer, in *Folk-Lore*, 1910, xxi. 289.

sion was otherwise festively celebrated.[22] Such rites must have descended from Semitic antiquity since the ritual expressions *hallala, ahalla* (Heb. *hilāl*) are etymologically explained by *hilāl,* "new moon" or "crescent."

The festival of new moon[23] described in the Old Testament must belong to a very early period in Hebrew history, and as it may be celebrated as well by nomads as by agriculturists there is no difficulty in regarding it as antedating the permanent settlement in Canaan. The Hebrew month, as among other peoples who count by lunations (*supra*), began when the silvery crescent was first discerned in the evening twilight. In later Judaism as soon as the moon's appearance was proved by credible witnesses before the Sanhedrin at Jerusalem, the feast of the new moon was solemnized and messengers were sent abroad to announce the opening of the new month.[24] As early as the reign of Saul there is explicit evidence that the first day of the month was regarded as a period of exceptional importance when, apparently, all servile work was forbidden.[25] In the age of Elisha

[22] Ginzel, in *Klio,* 1901, i. 15, referring to the *Fihrist.* The Harranians had four sacrificial days in every month, and of these, at least two were determined by the conjunction and opposition of the moon.

[23] Nowack, *op. cit.,* ii. 138 *sq.;* Wellhausen, *Prolegomena,* 112 *sqq.;* Benzinger, "New Moon," in *Encyclopaedia Biblica,* iii. cols. 3401 *sqq.;* Abrahams, "New Moon," Hastings, *Dictionary of the Bible,* iii. 521–23; Kohler, "New Moon," *Jewish Encyclopedia,* ix. 243 *sq.*

[24] Nowack, *op. cit.,* ii. 140; Schiaparelli, *op. cit.,* pp. 92, 102 *sqq.;* E. Schürer, *History of the Jewish People in the Time of Christ,* div. i. vol. i. 366 *sq.* It is difficult to assume that the ancient Hebrews had no system for determining the duration of each month and hence that no one knew beforehand whether it was to consist of 29 or 30 days. That the date of the new moon could be known in advance seems to be indicated by an important passage (*1 Samuel,* xx. 5, 18, 24, 27) where David and Jonathan act on the knowledge that the next day would be the New Moon festival. Though the Old Testament contains no indication of the way of fixing the months it may be conjectured that the Hebrews, like some primitive peoples of the present, made allowance for the days of the moon's invisibility in a more or less arbitrary fashion (*cf. supra*).

[25] *1 Samuel,* xx. 5, 18–19, 24, 27. *Cf.* the Douay version of these passages.

the new moon seems to have been one of the favorite occasions for consulting the prophets,[26] a circumstance which could be explained if the day were marked by a cessation of ordinary labor. There are still other reasons, presently to be given, for believing that until the Exile or later, the new moon was a general rest day; and this it has continued to be for Jewish women until the present time.[27] Finally, it is difficult to understand the rule forbidding fasting at new moon except as a reference to a custom formerly observed but in later times regarded as an illegitimate rite (*infra*).[28]

Not only new moon but full moon as well had a religious significance to the early Israelites.[29] The great agricultural festivals must have been celebrated at the time of full moon, for when the sacred calendar was framed in post-Exilic times, they were definitely fixed for the middle of the month. On the fourteenth day of the first month came the Passover, and on the fifteenth day of the same month the Feast of Unleavened Bread (from the fifteenth to the twenty-first).[30] On the fifteenth day of the seventh month began the Feast of Tabernacles which was likewise celebrated for seven days.[31] It is to be observed, also, that these festivals, like the Sabbath and Day of Atonement, were periods of rest. The first and last of the seven days' Feast

[26] *2 Kings*, iv. 23.

[27] Abrahams, in Hastings, *Dictionary of the Bible*, iii. 522; John Allen, *Modern Judaism*, London, 1830, pp. 390 *sq.*

[28] *Cf. Judith*, viii. 8.

[29] A passage in one of the *Psalms* (lxxxi. 3): "Blow the trumpet at the new moon, at the full moon, on our feast-day," probably refers to the New Moon in the seventh month (*Leviticus*, xxiii. 24). Similarly, "full moon" may be explained as referring to the first day of the Feast of Tabernacles which began on the fifteenth of the same month (*ibid.*, xxiii 39).

[30] *Leviticus*, xxiii. 5–6; *Exodus*, xii. 6 *sqq.*; *Numbers*, xxviii. 16–17.

[31] *Leviticus*, xxiii. 39, 33–36; *Numbers*, xxix. 12. *Ezekiel* (xlv. 25), seems to have been the first to fix the Feast of Booths on the fifteenth of the seventh month, though from *1 Kings* xii. 32 it would appear that this date was already established in the southern kingdom of Judah. This passage, however, may be post-Exilic.

of Unleavened Bread were to be kept for religious assemblies where "no toilsome work" was allowed.[32] A like prohibition characterized the Feast of Tabernacles: "on the first day shall be a complete rest, and on the eighth day shall be a complete rest."[33] When the priestly lawgivers arranged the post-Exilic calendar the institution of a weekly Sabbath had come into existence. As a consequence the custom of observing every full moon as a period of abstinence must have fallen into disuse except as it was perpetuated in the sabbatarian rules for the celebration of the great agricultural festivals.

In some of the older parts of the Bible, and especially during the time of the earlier prophets, the new moon and the Sabbath are repeatedly mentioned together. In the pathetic narrative which describes how the Shunammite woman sought Elisha that the prophet might restore her son to life, her husband asks: "Wherefore will thou go to him to-day? It is neither new moon nor Sabbath?"[34] The prophet Hosea, promising that the people's unfaithfulness shall be punished, cries out wrathfully: "I will also cause all her mirth to cease, her feasts, her new moons, and her Sabbaths, and all her solemn assemblies."[35] Amos rebukes the oppressors of his people "that would swallow up the needy, and cause the poor of the land to fail, saying 'When will the new moon be gone, that we may sell grain? and the Sabbath, that we may set forth wheat, making the ephah small and the shekel great?'"[36] Isaiah condemns the formalism of the ancient faith in striking words: "Bring no more vain oblations; incense is an abomination unto me; new moon and Sabbath, the calling of assemblies—I cannot away with iniquity and solemn meeting."[37] Elsewhere, in the same work appears the prophecy: "And it shall come to pass, that from one new moon to another, and from

[32] *Leviticus,* xxiii. 6–8; *Exodus,* xii. 15–16; *Numbers,* xxviii. 17–18, 25.

[33] *Leviticus,* xxiii. 39; *Numbers,* xxix. 12, 35. The eighth day was probably added by later lawgivers.

[34] *2 Kings,* iv. 23.

[35] *Hosea,* ii. 11.

[36] *Amos,* viii. 4–5.

[37] *Isaiah,* i. 13.

one Sabbath to another, shall all flesh come to worship before me, saith Jehovah."[88]

This remarkable conjunction of the Sababth with new moon in some of the oldest parts of the Hebrew Scriptures had been previously noticed by such acute critics as Wellhausen and Robertson Smith, who, however, were unable to offer a satisfactory solution of the problem thus presented. When, however, it was learned from the cuneiform records that the Babylonian *šabattu* fell on the fifteenth (or fourteenth) day of the month and meant with great probability the day of the full moon (*supra*), it became clear that in these Biblical passages we have a survival of what must have been the original application of the Hebrew term "sabbath."[89] Among the Israelites, as among so many other peoples, there were two lunar festivals, held on the day of the new moon (*ḥodesh*) and on the day of the full moon *šabbāth*). These festivals, we have every reason to believe, reached back into the dateless past of prehistoric times.

If the analogies from contemporary and archaic societies have any validity, the Hebrew seven-day week, in historic times a periodic week, arose from the subdivision of the lunation as determined by new and full moon. It must likewise have been originally a lunar week, corresponding closely to the moon's four phases, and not at first disassociated from the month. It is scarcely possible to determine when such lunar cycles were introduced among the early Hebrews. Comparisons with other primitive peoples do not indicate that a division of the month into lunar weeks is familiar to nomadic pastoral tribes which, indeed, would scarcely require them for their simple economy. The Israelites may have originated their lunar weeks themselves

[88] *Isaiah*, lxvi. 23.

[89] This pregnant suggestion was first made by Zimmern in his comments on the discovery by Pinches, *Zeitschrift der deutschen morgenländischen Gesellschaft*, 1904, lvii. 202 with note 1). Subsequently the hypothesis was elaborated by J. Meinhold, *Sabbat und Woche im Alten Testament*, Göttingen, 1905. His main conclusions have been accepted by Karl Marti, *Religion of the Old Testament*, London, 1907, pp. 150 *sq.*, and T. K. Cheyne, *Traditions and Beliefs of Ancient Israel*, London, 1907, p. 69.

as many other peoples have done; they may have borrowed them from the Babylonians as various authorities have supposed;[40] they may have taken them from the Canaanites whose agricultural festivals appear to have been transferred to the Hebrew calendar with little essential change. Archaeological research points more and more to the great influence of Canaanitish culture on the early Hebrews.

With our present knowledge we cannot hope to fix with any exactness the precise period when the momentous change from lunar weeks to periodic weeks took place in Israel. That the periodic week was borrowed from Babylonia is an hypothesis that finds little support in any cuneiform evidence at present available.[41] It is highly questionable whether the Babylonians ever possessed the institution of a periodic seven-day week. That it was borrowed from the Canaanites is a gratuitous assumption. Until evidence to the contrary is found we may with good reason attribute the periodic week to the Hebrews themselves—an institution as characteristically their own as formed the nundinal period to the Romans, both being weeks which ran from month to month and from year to year.

In his able treatise Meinhold has gone so far as to argue that until the age of Ezekiel the Israelites employed no weeks at all.[42] He then supposes that continuous seven-day weeks were introduced largely through Ezekiel's reforming influence, hence that the Sabbath as the last day of the periodic week was a post-Exilic institution. Critics have pointed out that it is almost impossible for so far-reaching a change to have occurred unrecorded; moreover that the acceptance of such an hypothesis makes it necessary to argue that all places in the Old Testament where the Sabbath is mentioned as the seventh day of the week are either of Ezekiel's time or later.[43] To my mind, the problem is

[40] Marti, "Week," in *Encyclopaedia Biblica,* iv. col. 5290.

[41] *Cf.* Zimmern, in E. Schrader, *Keilinschriften,*[3] 594. See also A. H. McNeile, *Book of Exodus,* London, 1908, p. 122.

[42] *Sabbat und Woche,* 10 *sqq.*, 21 *sqq.*

[43] *Cf.* Hehn, "Siebenzahl und Sabbat," 115 *sqq.*

simplified if we assume that the Hebrews employed lunar seven-day weeks perhaps for a long period anterior to the Exile, lunar weeks ending with special observances on the seventh day, but none the less tied to the lunar month. The change from such lunar cycles to those unconnected with the month would not have involved so abrupt and sudden a departure from the previous system of time reckoning as that from a bipartite division of the lunar month to a week running unfettered through the year.

With the institution of a periodic week ending in a Sabbath observed every seventh day, there would be no longer any necessity for the observance of a new moon festival as a day of general abstinence since the weeks would run continuously, and the weekly Sabbath would take the place of a festival formerly observed every seventh day from new moon or the beginning of the month. Various writers have argued that the new moon festival was deliberately thrust aside on account of the heathenish superstitions which associated themselves with it.[44] It is more reasonable to suppose that the religious observance of New Moon fell gradually into disuse with the adoption of the periodic seven-day week ending in a Sabbath. Whatever significance it continued to have in the later period of Jewish history must be ascribed to the fact that when all the great festivals were definitely fixed to certain days, the new moon as marking the beginning of the month, assumed a special importance in the sacred calendar.

20. TABOOS OBSERVED ON THE SABBATH

Nearly all the sabbatarian regulations are meaningless except as elucidated from the comparative point of view. Thus the rule which required everyone to remain indoors on the Sabbath: "Abide ye every man in his place, let no man go out of his place on the seventh day,"[45] is identical with the numerous rules enjoin-

[44] Wellhausen, *Prolegomena,* 113; Robertson Smith, "Sabbath," in *Encyclopaedia Britannica,*[9] xxi. 126; Hehn, *op. cit.,* 117.

[45] *Exodus,* xvi. 29. According to Origen, Dositheus, the head of an ascetic Samaritan sect, based on this text the requirement that his followers throughout the Sabbath day should preserve unchanged the posi-

ing seclusion during tabooed seasons (*supra*). Again, the prohibition: "Ye shall kindle no fire throughout your habitations upon the Sabbath day"[46] which in another passage[47] is amplified into the rule requiring all cooking to be done on the preceding day, may be first compared with the taboos observed by "the shepherd of the great peoples" in Babylonia. On four "evil days" he is not to eat roasted meat or baked bread, and on the nineteenth day he may eat nothing which has been touched by fire (*supra*). In a remarkable calendar of the unlucky days observed by the Egyptians (*infra*), we find an extensive series of regulations regarding the use of fire. On the fifth of the month Athyr, fire might not be looked at, and if it went out, it might not be rekindled. On the eleventh of Tobi no one might approach a fire-place, for, said the scribe, on that day the god Ra had once burst into flame to devour his enemies and the effects of his metamorphosis were felt on every anniversary of the day. These taboos, which reach back into a remote period of Egyptian history, are still found among the peasants of Thebes and the Saîd who on certain days of the year refuse to kindle a fire, and on others avoid approaching the flame, even of a candle or a lamp,

tion which they occupied at the beginning of the festival. A. J. Reinach (*Cultes, mythes, et religions,* Paris, 1906, ii. 444), wittily compared this with the practice of various animals, who, when in danger and unable to flee, *fait le mort.* Immobility is obviously the most favorable condition in which to avoid evil influences and spirits.

[46] *Exodus,* xxxv. 3.

[47] *Ibid.,* xvi. 23. The rules forbidding the lighting of fires and cooking on the Sabbath were very strictly observed by the Essenes (Josephus, *Bellum Judaicum,* ii. 8). In the Mishna (*Shabbath,* iv. 1) the prohibition to bake and boil on the Sabbath is interpreted to mean that food may be kept hot on the Sabbath, provided its existing heat is not increased, which would be "boiling." Hence the food must be put only into such substances as would maintain but not increase the heat. The prohibition to kindle a fire on the Sabbath was naturally extended to one of extinguishing a fire as well as lights and lamps (*Shabbath,* xvi. 6). In mediaeval times Rabbi Solomon ben Adret had a lock made to his stove, and kept the key over the Sabbath to prevent his too considerate housemaid from lighting a fire on Saturdays (I. Abrahams, *Jewish Life in the Middle Ages,* London, 1896, p. 83).

and the most timid do not smoke.[48] In Hawaii, as we have seen, during the four *tabu* seasons in each lunar month, "every fire and light was extinguished." Similar rules characterize periods of abstinence elsewhere in the aboriginal world (*supra*).

Some of these taboos relating to fire may reflect primitive man's fear of a mysterious element which had not yet been completely tamed and harnessed to human use; but the fact that among various peoples all fires are put out after a death, indicates a more probable origin of the prohibition in the fear of attracting evil spirits or harmful influences, generally. Thus in Morocco when a person has died in the morning "no fire is made in the whole village until he is buried, and in some parts of the country the inmates of a house or tent where a death has occurred, abstain from making fire for two or three days."[49] Similar customs have a wide diffusion and can be traced, for example, among the Dayaks of Borneo, in Burma and ancient Persia, and among the peasants of Calabria and the Scottish Highlanders.[50] It is hardly possible to urge that the putting out of fires on such occasions is always a necessary result of the widespread custom of fasting after a death and until the corpse is buried; as a matter of fact we find that fires may be extinguished when there is no fasting, and also that the fast is often restricted to the daytime when evil spirits, and in particular the ghost of the dead man, are presumed to be unable to see.

But as Professor Westermarck has so ably shown the widespread custom of fasting is itself often to be explained as due to the desire to prevent pollution.[51] Under certain circumstances to partake of food may cause defilement; hence fasting is only one of the numerous precautions necessary to avoid contamination. These ideas find expression in the rules prescribing fasting after

[48] G. Maspero *New Light on Ancient Egypt*,[3] London, 1909, pp. 130 *sq.*

[49] *Westermarck, Origin and Development of the Moral Ideas*, ii. 305.

[50] For a collection of the ethnographic evidence see Frazer, "On Certain Burial Customs as Illustrative of the Primitive Theory of the Soul," *Journal of the Anthropological Institute*, 1885, xv. 90.

[51] E. Westermarck, "The Principles of Fasting," *Folk-Lore*, 1908, xviii. 397 *sqq.*; *idem, Moral Ideas*, ii. 293 *sqq.*

a death when, frequently, a real fear exists of eating food affected with the death contagion.[52] On other critical occasions, also, the eating of food is thought to be injurious and hence ought to be avoided. Thus fasting may be enjoined during an eclipse of the sun or moon, or during a thunderstorm. Abstinence from food, either partial or complete, marks several of the tabooed days previously considered (*supra*). Such well established facts suggest that in the earliest period fasting may have also marked the Hebrew Sabbath.[53] This hypothesis seems first to have been advanced by the "judicious" Hooker,[54] who observes that "it may be a question, whether in some sort they [the Jews] did not always fast on the Sabbath." He instances a statement of Josephus that the sixth hour or noon was the time when "our laws require us to go to dinner on Sabbath-days."[55] Various pagan writers also refer to the Sabbath as a day of fasting.[56] It is, of course, well known that in the first century of our era, and long previously, the Sabbath was a day of gladness, celebrated with feasting and good cheer. The notion that it was a fast day must have arisen from a misunderstanding of the Biblical rule forbidding cooking on the Sabbath. Yet it seems difficult, with Professor Westermarck, to explain the curious rule which forbids fasting at new moon (*supra*) and on the seventh day otherwise than "as a protest against a fast once familiar to the Jews on this occasion, but afterwards regarded as an illegitimate rite."[57] The foregoing

[52] *Cf. supra* on the cessation of work after a death.

[53] *Cf.* Jastrow, in *American Journal of Theology*, 1898, ii. 325; Westermarck, *op. cit.*, ii. 310 *sq.*

[54] *Ecclesiastical Polity*, v. 72.

[55] *De vita sua*, 54.

[56] Suetonius, *Octavius*, 76; Justin, xxxvi. 2. The latter speaks of the Sabbath having been consecrated as a fast day to commemorate a seven days' fast of the Israelites in the deserts of Arabia. The various classical texts bearing on the Jewish Sabbath are collected by T. Reinach, *Fontes rerum judaicarum*, i. 104, 243, 266, 287. See also M. Wolff, "Het oordeel der Hellensch-Romeinsche schrijvers over oorsprong, naam, en viering van der Sabbat," *Theologisch Tijdschrift*, 1910, xliv. 162–72.

[57] *Moral Ideas*, ii. 310. *Cf. Schulchan Aruch*, i. 91, 117. Perhaps the fasting originally occurred only at new and full moon and was never extended to the weekly sabbath.

pages have supplied too many illustrations of the transformation of fast days into feast days for such an explanation to be dismissed as an idle conjecture.

Even the rules which required rest on the Sabbath day betray in their original form something quite different from a humanitarian purpose to provide a season of relaxation and repose for man and beast. No plea of necessary labor is to be accepted at even the busiest seasons of the year: "In plowing time and in harvest thou shalt rest."[58] When the Israelites were in the wilderness and dependent on manna for their sustenance, the heavenly food was not to be gathered on the Sabbath day and those who went out to seek it found none in the fields. But that which was gathered during the preceding day preserved its freshness throughout the Sabbath.[59] In the Decalogue (*Exodus*, xx. 10), the seventh day is stated to be a Sabbath not only for the householder and his family, but for the stranger within the gates and for the cattle. No utilitarian reason is here assigned for the prohibition of labor nor does the commandment indicate that its author was inspired with sentiments of consideration for the lower creation. It is only in passages belonging to a far later period of Hebrew history that we find the priestly writers enjoining the Sabbath observance "that thine ox and thine ass may have rest, and the son of thine handmaid, and the sojourner, may be refreshed."[60]

When the notion of a weekly Sabbath was extended to the Sabbatical year the seventh year was to be "a Sabbath of solemn rest for the land," not because of the advantage of allowing soil to lie fallow at regular intervals, but because the land itself was consecrated as "a Sabbath unto Jehovah."[61] The regulation does not imply that as a consequence of a fallow year the land will produce better harvests on the succeeding year. It is expressly said that the year before the Sabbath year is the one to be conspicuous

[58] *Exodus*, xxxiv. 21.

[59] *Ibid.*, xvi. 24 *sqq.*

[60] *Ibid.*, xxiii. 12. *Cf. Deuteronomy*, v. 14.

[61] *Leviticus*, xxv. 4. That this law was occasionally productive of great distress we may learn from *1 Maccabees*, vi. 48, 53. *Cf.* Josephus, *Antiquitates Judaeorum*, xiv. 16, 2.

for its fruitfulness: "Then I will command my blessing upon you in the sixth year, and it shall bring forth fruit for the three years."[62] That subsequently the produce of the soil was to be devoted to the poor and to the cattle,[63] may be taken as representing a partial triumph of the utilitarian spirit. During the Jubilee at the end of seven times seven years, "Ye shall not sow, neither reap that which groweth of itself in it, nor gather the grapes in it of the undressed vines,"[64] a regulation which can be explained only as the outcome of the sabbatarian observances attached to the seventh day and the seventh year.

In the Hawaiian Islands and west Africa the punishment of one who broke a sabbatarian taboo was death (*supra*). Among the early Israelites a similar penalty was enforced against the Sabbath-breaker: "Every one that profaneth it shall surely be put to death; for whosoever doeth any work therein, that soul shall be cut off from among his people."[65] We are not informed how frequently this stern ordinance was enforced; the case of him who gathered sticks on the Sabbath[66] is the only instance of capital punishment for Sabbath desecration which has found its way into the Scriptures as we now have them.

From various sources we may gather that the Hebrews kept the Sabbath with varying degrees of rigor in different places and at different times. In the age of Nehemiah the people of Judah made wine and gathered the harvest on the Sabbath. All manner of burdens were brought into Jerusalem on that day and the inhabi-

[62] *Leviticus*, xxv. 21.

[63] *Exodus*, xxiii. 11.

[64] *Leviticus*, xxv. 11. Whether the Jubilee was celebrated after 48 or after 49 years is a problem incapable of solution from the Old Testament evidence. As Schiaparelli has well shown (*Astronomy in the Old Testament*, 146 *sqq.*), the twenty-fifth chapter of *Leviticus* combines together two systems of rules which are not only different but actually irreconcilable with each other, the septennial system of the Sabbatical year and the Jubilee system of fifty years.

[65] *Exodus*, xxxi. 14. *Cf.* for a similar regulation, *ibid.*, xxxv. 2.

[66] *Numbers*, xv. 32–36. The comments of Philo Judaeus on this passage are interesting, if not illuminating (*Vita Mosis*, iii. 27–28).

tants bought and sold with the men of Tyre.[67] These practices indicate that the ancient taboos were then relaxing their hold and that the Sabbath bade fair to become a social institution, divorced from supernatural sanctions.

It is doubtless true that the Exile tended to augment the religious importance of the Sabbath, since even in heathen lands it could be observed by a people who now had neither state nor temple. In the Exilic literature great significance is ascribed to the Sabbath[68] and in post-Exilic law it is regarded as a sign between Jehovah and the children of Israel that Jehovah is their God. It is impossible, however, to follow those critics[69] who assume that the rigor of the sabbatarian observances after the Exile forms an entirely new development, and that the priestly Sabbath represents something very different from the Sabbath of the Book of the Covenant or of Deuteronomy. The increased significance of the institution led naturally to a revival of the old taboos with which the day had been always invested, taboos which otherwise might have been expected to disappear with advancing culture and the decay of supernaturalism. The like has happened elsewhere amongst peoples of archaic civilization. It is not impossible that closer contact with Assyria and Babylonia from the eighth to the sixth century B.C. did something to revitalize the older superstitions and to give to the Sabbath once more an austere character.[70] The day, however, seems never wholly to have lost all traces of its severe and sombre origin in a *tabu* season; it is significant in this connection that whilst the Hebrews had their

[67] *Nehemiah*, x. 31; xiii. 15–16. Ezekiel dwells constantly on the profanation of the Sabbath in his catalogue of the sins of the Israelites (xx. 13, 16, 21, 24; xxii. 8, 26; xxiii. 38. For the prohibitions of burden-bearing and marketing on the Sabbath see *Amos*, viii. 5; *Jeremiah*, xvii. 21–22.

[68] *Cf. Isaiah* lvi. 2 *sq.*, lviii. 13.

[69] T. K. Cheyne, *Jewish Religious Life after the Exile*, New York, 1898, p. 66; C. G. Montefiore, *Lectures on the Origin and Growth of Religion as Illustrated by the Religion of the Ancient Hebrews*,[2] London, 1893, pp. 229 *sq.*, 338 *sq.*; Wellhausen, *Prolegomena*, 115; W. R. Smith, "Sabbath," *Encyclopaedia Britannica*,[8] xxi. 124.

[70] *Cf.* Hirsch, "Sabbath," in *Jewish Encyclopedia*, x. 590; Bohn, *Der Sabbat im Alten Testament*, 8 *sqq.*, 89 *sqq.*

favorable and unfavorable days as the phrase *yôm ṭob* ("good day") for holy day shows, the Sabbath is never so described.[71]

The later history of the Sabbath as a *tabu* day culminates in the exaggerations of pharisaic Judaism and the extraordinary micrology of the rabbinical enactments.[72] The Mishna enumerates no less than thirty-nine principal classes of prohibited actions. Some of these are regarded as belonging to as ancient a period as any of the taboos found in the Old Testament; the majority, however, represent only an elaboration of the scriptural precepts. Two entire treatises are devoted to the provisions for Sabbath observance. The *Shabbath* is chiefly remarkable as an illustration of the subtle refinements and distinctions of which the rabbis were capable. Thus the prohibitions to tie or untie a knot being regarded as too general, it was necessary to define the species of knots referred to. A camel-driver's knot and boatman's knot rendered the man who tied or untied them a sabbath-breaker; but Rabbi Meir said, "A knot which a man can untie with one hand only, he does not become guilty by untying." Rabbi Jehudah, more liberal of mind, laid down the rule that any knot might be lawfully tied which was not intended to be permanent. The second treatise, *Ērūbim*, was intended to alleviate the extreme rigor of some of the enactments in the former work. Thus the limits of a "Sabbath-day's journey" having been fixed at two thousand cubits, the rabbis conceded that one who before the Sabbath had deposited food for two meals at the boundary thereby removed his habitation from the town and made that place his new domicile. When the Sabbath came he was at liberty to proceed two thousand cubits beyond it though he lost the right to walk the same distance in the opposite direction. These legal fictions may be most appropriately compared with the methods of evading the sabbatarian rules found among the modern Todas (*supra*).

The Jewish Sabbath appears to have been known to the Romans as

[71] Jastrow, in *American Journal of Theology*, 1898, ii. 324 *n.*[47].

[72] *Cf. 1 Maccabees*, ii. 31 *sqq.*; *2 Maccabees*, v. 25, vi. 11, viii. 26. The principal regulations in the Mishna are well summarized by Schürer, *History of the Jewish People in the Time of Christ*, div. ii. vol. ii. 96–105.

early as the last century of the Republic, to judge from the notices of the institution in classical writers. By the time of the Empire references to it multiply. The Diaspora which spread abroad a knowledge of the Jewish seven-day week introduced the Sabbath likewise. It is a curious coincidence that the very time when the preaching of Christianity began was also the period when the Jewish propaganda reached its height. In the great commercial centers on the Mediterranean there were numerous Jewish communities with pagan proselytes who adopted Jewish customs including the observance of the Sabbath. Philo[73] bears witness to the wide diffusion of the institution; and Josephus,[74] with pardonable exaggeration, could write that there was no city among the Greeks or the barbarians where the festival of the Sabbath was not celebrated.

Although the Sabbath was abolished by Christ for his followers[75] its observance by Jewish converts in Palestine did not immediately cease. The Jewish seven-day week passed over to Christianity almost unchanged, doubtless because the use of the planetary week with its names of pagan deities could scarcely prove attractive. The days were reckoned in their numerical order as second, third, fourth, fifth and sixth, the latter, however, being called more commonly, ἡ παρασκευή, the day of preparation before the Sabbath. It is impossible to say definitely how far back the practice of marking the first day of the week (ἡ κυριακὴ ἡμέρα, the Lord's Day), by acts of worship, may be traced. Pliny the Younger, at the opening of the second century, makes it probable that among the Christians of Bithynia and no doubt elsewhere in Asia Minor the day of religious worship was Sunday.[76] Justin Martyr, writing about 150 A.D., has very explicit statements about the celebration of Sunday as marking the day when Christ arose from the dead.[77]

The original identity of Sabbath and full moon day throws much light on the reasons which led to the choice of the first day of the week as the day of the Resurrection. The early Christian church was divided into two parties, one celebrating the day of resurrection annually on the fourteenth of Nisan (corresponding to the seventh of April in the year 30 A.D.—the date of the crucifixion), the other instituting the weekly "Lord's Day." The division was not healed until the Council of Nicea. An important part in this controversy was played by the phrase "the day after the Sabbath," occurring in the twenty-third chapter of *Leviticus* (v. 11), where directions are given for bringing the first fruits of harvest to the

[73] *Vita Mosis*, ii. 4.
[74] *Contra Apionem*, ii. 39.
[75] *Mark*, ii. 27; *John*, v. 17.
[76] *Epistolae*, x. 98.
[77] *Apologia prima*, 67; Deissmann, "Lord's Day," *Encyclopaedia Biblica*, iii. cols. 2813–16.

priest. "And he shall wave the sheaf before Jehovah, to be accepted for you: on the day after the Sabbath he shall wave it." The reference was to the beginning of the fifty days' period from Passover to Pentecost. Among the Jews the orthodox view was that "Sabbath" in this passage meant the first day of Passover, whereas the heretical Jewish sects, including the Samaritans, took the word literally to mean Sunday; according to their view Pentecost always fell on a Sunday. The early Christians adopted the heterodox view, and when the Council of Nicea definitely established the observance of a weekly "Lord's Day" that day was fixed as Sunday—"the day after the Sabbath." But as has recently been shown, the term Sabbath in this passage described the fifteenth day of Nisan not as a festival day but merely as the middle of the month.[78]

There is no evidence that Sunday at first was marked by sabbatic observances; on the contrary, in one of the Epistles of Ignatius, we find the exhortation not to "sabbatize" which was afterwards expanded into a warning against keeping the Sabbath, after the Jewish fashion, "as if delighting in idleness."[79] In the fourth century a Church Council expressly enacted that "the Christians ought not to judaise and rest on the Sabbath, but ought to work on that day."[80] That the earliest Sunday law, the edict issued by Constantine in 321, had probably no relation to Christianity has already been indicated (*supra*). As Professor Westermarck has pointed out, though the obligatory Sunday rest in no case was a continuance of the Jewish Sabbath, it gradually was confounded with it, owing to its injunction of a weekly day of rest, as the code of divine morality. But in southern European lands, the restraints connected with the day seem never to have become so burdensome as elsewhere; people habitually work hard on the Sabbath. After Protestantism modelled on the Old Testament gained the upper hand in north Europe the Sabbath ordinances were revived to an extraordinary degree.[81]

[78] The foregoing statements are based on Prof. Morris Jastrow's summary of the papers presented at the recent meeting of the Society of Biblical Literature. See the *Nation*, 1911, xcii. 8 *sq.*

[79] *Epistola ad Magnesios*, 9.

[80] *Concilium Laodicenum*, can. 29.

[81] *Cf.* Alice M. Earle, *Sabbath in Puritan New England*, New York, 1891, pp. 245–58.

VIII. PERIODS OF ABSTINENCE AT UNLUCKY TIMES AND SEASONS

21. THE CONCEPTION OF UNLUCKINESS

The observance of lucky and unlucky days is a familiar phenomenon in primitive society and among peoples of archaic civilization. Under the attenuated form of a survival, the belief still lingers in civilized and Christian lands. The reasons for the assignment of a good and an evil character to certain days are usually quite obscure; and even where explanations are provided, they are, as a rule, explanations after the event. The attempt to provide a satisfactory origin for them insensibly widens out into an effort to account for the genesis of the great body of popular and anonymous superstitions.

Probably the commonest source of the belief in lucky and unlucky days is to be sought in that erroneous association of ideas which underlies so much of savage magic and savage religion. If an event, fortunate or unfortunate, has taken place on a certain day, the notion easily arises that all actions performed on the recurrence of the day will have a similarly favorable or unfavorable issue. Thus among the Tshis of west Africa days are considered unlucky generally on account of some great calamity having taken place at such dates. Their most unlucky day is the anniversary of the Saturday on which Osai Tutu was slain in an ambush near Acromanti in 1731.[1] The *dies religiosi* or unlucky days of the Roman calendar (*supra*) included the anniversary of the battle of the Allia, *dies Alliensis* (July 18), when the Republic had suffered grave misfortune.[2] After the assassination of Julius Caesar a decree was made that the Ides of March (March 15) should be called *parricidium,* henceforth to be observed as an unlucky day.[3] It has usually been supposed that the

[1] Ellis, *Tshi-Speaking Peoples,* 219 *sq.*

[2] The same date was also observed as the *dies Fabiorum* (Livy, vi. 1). It may be noted that July 18 is sometimes marked C in the calendars, indicating that the day was one on which the *comitia* might meet.

[3] Suetonius, *Julius Caesar,* 88.

thirty-six *dies postriduani,* or days following the Calends, Nones, and Ides, which were also regarded as unlucky,[4] and as such unsuitable for journeys and marches, were so indicated for some special reason, such as a disaster to the state. Perhaps, however, they were real survivals of taboos at new moon, first quarter, and full moon, their assumed historic significance having been the conscious fiction of a later and more sophisticated age.

Sometimes the belief in days lucky and unlucky is a conclusion drawn from the observation of natural phenomena, as in the notion previously referred to (*supra*) that during the "death" of the moon all mundane business ought to be suspended. The conception of luckiness and unluckiness may also be deduced *a priori* from the assumed character of certain times. Thus the old Japanese are said to have held five yearly festivals or holidays "purposely laid on those days, which, by reason of their Imparity are judged to be the most unfortunate." These were New Year's day, the third day of the third month, the fifth of the fifth month, the seventh of the seventh month, the ninth of the ninth month.[5] Sometimes, again the superstition rests on utterly trivial considerations illustrated by a Jewish belief reaching back to the Talmud that it is lucky to begin an undertaking or a journey on Tuesday, because in describing the third day of creation it is said, "God saw that it was good." Contrariwise it is unlucky to commence anything of importance on Monday when this is not said at all.[6] Where such conceptions are rife they readily lend themselves to divination and astrology and under the fostering care of practitioners of magical arts may develop into elaborate augural codes.

[4] Ovid, *Fasti,* i. 59 *sq.;* Plutarch, *Quaestiones Romanae,* 25; Livy, vi. 1; Aulus Gellius, v. 17. These days were usually described as the *dies atri vel vitiosi.* The greater number of them were available for judicial business, but not for meetings of the assemblies (*dies fasti non comitiales*).

[5] Kaempfer, *History of Japan,* ii. 22. In Korea the fifth, fifteenth, and twenty-fifth of each month are called "broken days" when the people avoid any new undertakings (W. E. Griffis, *Corea,* New York, 1889, p. 298).

[6] Jacobs, "Superstition," in *Jewish Encyclopedia,* xi. 599.

The foregoing considerations do not, however, apply to all examples of the superstition under discussion. In many instances, as has been repeatedly noticed, no clear line of demarcation can be drawn between days *tabu* and days considered "unlucky." Both may involve similar ideas of contagion; the notion of sanctity or pollution in the one being conceived as scarcely more transmissible than the vaguer conception of "unluckiness" which attaches to certain periods and affects everything done on such occasions. In each case the roots of the institution go back to the primitive, unanalyzed sense of danger lurking in the unusual and the abnormal. Accordingly, many of the so-called unlucky days found among peoples of archaic culture and still lingering in contemporary civilization may be regarded as survivals from an earlier institution of days of abstinence communally observed. It is true that as compared with the longer duration of some tabooed periods among primitive peoples, the unlucky day constitutes a limited season of restriction. This difference may be explained as the necessary outcome of advancing culture, since the burden of the old restrictions would otherwise become intolerable. Every progressive society tries to shake off vexatious restrictions, the classic example of which was the voluntary abolition in Hawaii of the entire *tabu* system before the advent of the missionaries.[7]

22. UNLUCKY DAYS IN THE LOWER AND THE HIGHER CULTURE

The likeness between tabooed days and some "unlucky" days[8] may be illustrated by much ethnographic evidence drawn from different cultural areas.[8] The Maori, we are told, endeavor to determine by divination whether the day set for a journey is fa-

[7] This took place in 1819 when Kamehameha II succeeded to the throne previously occupied by his energetic father. The first missionaries did not arrive from America until 1820. See the accounts of this remarkable revolution in Ellis, *op. cit.*, iv. 126 *sqq.* *Cf.* also, *The Private Journal of the Rev. C. S. Stewart*, Dublin, 1830, p. 78.

[8] Some material on unlucky days is collected in R. Andree's brief article "Tagewahlerei" in his *Ethnographische Parallelen und Vergleiche*, Leipzig, 1878, pp. 1–8. The chapter devoted to the subject in William Jones, *Credulities Past and Present*, London, 1898, is an uncritical miscellany.

vorable or unfavorable. The fisherman is hopeless of making a catch on an unfavorable day. At such times "no dress will be commenced, no seine cast, no fish-hook baited, no ground turned up, seed sown, distant visit made, flax cut or dressed, timber cut, canoe formed, or even food partaken of."[9] It is scarcely necessary to point out that these unfavorable days of the Maori differ in no essential respect from the *tabu* days observed elsewhere within the Polynesian region. Like the latter they constitute a season of restriction, abstinence, and rest. The Malagasy unlucky days, as they have been commonly described, furnish an instance even more apt. The native term *fady* (or *tabu*) used for all objects and persons tabooed, is likewise applied to unfavorable days and months, the quality of such periods as dangerous or unlucky being thought transmissible to beings and actions.[10] Among the Tanala one of the months called *faosa* is considered extremely unlucky. "No one works in that month, no one changes his place of abode or goes about. If any one happens to be in the fields when the month comes in there he remains."[11] The Sihanaka keep Tuesday as an unlucky day when no work is allowed in the fields. In addition each family or tribe inherits a special unlucky day in each week when it is not permissible to show oneself outside the house. The Sakalava likewise abstain from all business and remain strictly in seclusion on their unlucky days, which belong both to families and to individuals. Among the Betsimisaraka, Saturday was so unlucky that one could do nothing then except eat, drink, sleep and dress the hair. Since

[9] J. S. Polack, *Manners and Customs of the New Zealanders,* London, 1840, i. 256.

[10] *Cf.* A. van Gennep, *Tabou et totémisme à Madagascar,* Paris, 1904, pp. 199 *sqq.* The Malagasy belief in lucky and unlucky days as determined by the lunar stations (*supra*) appears to be a direct importation from the Arabs superimposed on an earlier and thoroughly native observance of tabooed seasons. Similarly, the Malagasy have taken over the planetary week with all its astrological significance (*supra*).

[11] Sibree, in *Folk-Lore Record,* 1879, ii. 32; citing *Antananarivo Annual,* no. 2, p. 100.

the introduction of Christianity the day observed in the same rigorist fashion is Sunday.[12]

The observance of unlucky seasons with communal abstinence may be further illustrated by the practices attaching to epagomenal days. Like intercalary months (*supra*) they are often regarded as specially critical and important times. The solar year, superseding the lunar year of 354 days, seems to have been generally assumed in the first instance at the round number of 360 days, the earth's periodical course around the sun being taken as a multiple of the moon's course around the earth. In ancient Mexico, where a solar calendar came into use, the 360 days were divided into eighteen periods each of twenty days. As their total did not round out the solar year it became necessary to add five days; and these possessed an unfavorable character. They were called *nemontemi,* "the superfluous, supplementary days" with the secondary significance of "the useless days" as being consecrated to no deity and employed for no civic business. That they were considered sinister and unlucky is evident from the abstinence that characterized them. Nothing of any importance was done on the *nemontemi.* The house was not swept, no legal case was tried, and any person so unfortunate as to be born on one of these days was destined for a poor and miserable life. At the same time, the *nemontemi* possessed a prophetic power for the whole year. "They were also careful," says Father Sahagun, "during these fatal days not to fall asleep during the day, not to quarrel together, not to trip or to fall, because they said that if any of these things befell them, they would continue to befall them thence forevermore."[13]

In Yucatan, among the Mayas, the same abstinence prevailed during the epagomenal days there called *xma kaba kin,* the "days without names." "On these days men left the house as seldom

[12] van Gennep, *op. cit.,* 202 *sq.*

[13] E. Seler, in *Bulletin of the Bureau of American Ethnology,* no. 28, p. 16; Sahagun, *Histoire générale des choses de la Nouvelle Espagne,* Paris, 1880, pp. lxvi *sq.,* 77, 164; J. de Acosta, *Natural and Moral History of the Indies,* edited by C. R. Markham, London, 1880, ii. 392.

as possible, did not wash themselves, and took special care not to undertake any menial or difficult task, doubtless because they lived in the conviction that they would be forced to keep on doing it through the whole ensuing year. The Mexicans were more passive in regard to these days, inasmuch as they merely took care to avoid conjuring up mischief for the coming year while the Mayas did things more thoroughly. During these days, so portentous for the entire year, they banished the evil which might threaten them. They prepared a clay image of the demon of evil, Uuayayab, . . . confronted it with the deity who had supreme power during the year in question, and then carried it out of the village in the direction of that cardinal point to which the new year belonged."[14]

It is an impressive testimony to the essential unity of primitive culture that in a far distant quarter of the globe an almost identical superstition existed. The Egyptian solar calendar, as the Mexican, was based on a year of 365 days, but in Egypt the year was divided into twelve equal months of thirty days each, likewise leaving five supplementary days to be added at the end of the twelfth month—"the five days over and above the year," as they were styled by the Egyptians. At an early period these epagomenal days were celebrated in certain temples as those on which the five gods of the Osirian cycle—Osiris, Horus, Typhon, Isis, Nephthys, were born.[15] The first, third and fifth were held to be unlucky, the second is not described as either lucky or unlucky, whilst the fourth is said to be a "beautiful festival of heaven and earth."[16]

[14] Seler, *op. cit.*, 16 *sq.* *Cf.* for a fuller account *idem*, in Hastings, *Encyclopaedia of Religion and Ethics*, iii. 308.

[15] Diodorus Siculus, i. 13, 4; Plutarch, *De Iside et Osiride*, 12.

[16] E. A. W. Budge, *Gods of the Egyptians*, London, 1904, ii. 109. Wiedemann (*Religion of the Ancient Egyptians*, London, 1897, p. 211) mentions only the third as an unlucky day. See also Foucart, in Hastings, *Encyclopaedia of Religion and Ethics*, iii. 92 *sq.*, 105.

The ancient Persians likewise counted five epagomenal days to make up the solar year; and their feast of the Sacaea, mentioned by Berosus, has been shown to be identical with the celebration of these supplementary

The other lucky and unlucky days of the ancient Egyptians have been made familiar to us by the fortunate discovery of a calendar, a Nineteenth Dynasty papyrus, giving a list of such days for several months in the year. This is the Sallier Papyrus IV.[17] It

days—*Ferwardîn* (Meissner, in *Zeitschrift der deutschen morgenländischen Gesellschaft,* 1896, l. 296). By some scholars the Persian festival has been derived from the Babylonian New Year's festival of Zakmuk which is traced back to the time of Gudea in the third millenium B.C. (*cf.* Frazer, *The Golden Bough,*[2] iii. 151 *sqq.*). This hypothesis has not won wide acceptance (*cf.* Lang's acute discussion, *Magic and Religion,* London, 1901, pp. 141 *sqq.*); and, in fact, requires us to assume the existence of the five epagomenal days among the Babylonians at a very remote period. In Babylonia, however, the year was always a lunar year, adjusted to the tropical year only by the use of intercalary months (*supra*). The festival of Zakmuk, it should be noted, occupied not five but at least eleven days. In view of these considerations the suggestion may be pertinent that whatever resemblance existed between the Sacaea and the festival of Zakmuk is explained by both being held at specially critical seasons, the end of the old year or the beginning of the new year.

Among the early Celts, as well as among other Indo-European peoples, there are found traces of twelve intercalary days or "nights," added to the lunar year of 354 days, in the effort to accommodate it to the tropic or seasonal year. In modern Brittany these are called *gourdeziou* or "supplementary days." Popular superstition also describes them as "evil days," and further considers each one as prognosticating the character or quality of a month in the coming year. See J. Loth, "Les douze jours supplémentaires, *gourdeziou,* des Bretons, des Germains, et des Hindous," *Revue celtique,* 1903, xxiv. 310 *sqq.* In Brahmanic literature the twelve days are referred to as "an image of the coming year" (O. Schrader, *Reallexikon der indogermanischen Altertumskunde, Strassburg,* 1901, p. 191).

[17] The text was published in *Select Papyri of the British Museum,* i. pls. 144–68 and was translated by Chabas, *Le calendrier des jours fastes et néfastes de l'année égyptienne,* Châlons, 1870 (*Oeuvres diverses,* v. 126–235). Bohn (*Der Sabbat im Alten Testament,* pp. 57 *sqq.*) gives a revised and corrected version of some of the leading passages and classifies the contents of the calendar under such headings as prohibitions of eating, drinking and bathing, prohibitions of work, prohibitions of going out or of travelling, directions regarding fire and light, sexual intercourse, loud talking, music, and so on. Such an arrangement illustrates clearly the nature of the taboos observed. See further on this important calendar, Maspero, *Études égyptiennes,* Paris, 1886, i. 28 *sqq.*; *idem, New Light on Ancient Egypt,*[2] London, 1909, pp. 128–36; Wiedemann, *op. cit.,* 263 *sqq.*;

purports to have been written by a contemporary of Ramses II and to be based on the works of certain former seers. To the injunctions it contains we may reasonably ascribe a high antiquity. This interesting production of ancient though misdirected learning divides the hours between the rising and setting of the sun into three seasons of four, each of which is ruled by its particular influence. Most often their character was the same in all three seasons. Thus the fifth of the month Paophi is described as "inauspicious, inauspicious, inauspicious. In no wise go out of thy house on this day; approach not a woman." The preceding day, the fourth Paophi, is, however, characterized as "inauspicious, auspicious, auspicious," *i. e.*, varying in influence.[18] Thus it would seem that a single day might have both a favorable and an unfavorable character—a refinement of ingenious superstition which finds a parallel in the Babylonian calendars. The month Thot was particularly unfavorable for labor. On the twentieth of that month no work was done, no oxen killed, no stranger received. On the twenty-second no fish were to be eaten, no oil lamp lighted. On the twenty-third no incense was to be put on the fire, no large cattle, goats or ducks to be killed. For the twenty-sixth the injunction is, "do absolutely nothing on this day." Similar advice is given on several days of the month Paophi, and more than thirty times in the remainder of the Sallier calendar.[19]

The remarkably close analogies presented by many of these injunctions to the taboos of primitive peoples, make it highly probable that the calendar represents the systematization of far more ancient regulations for seasons of abstinence. Doubtless many changes in the shape both of additions and corruptions crept in; the calendar itself presents evidence that the Egyptians had begun to rationalize their taboos. Thus the scribe after

E. A. W. Budge, *Egyptian Magic*,[2] Lond., 1901, pp. 224 *sqq.*; Foucart, *op. cit.*, iii. 100 *sq.* The latter holds that the popular character of the collection has been exaggerated, a view to which comparative studies lend little support.

[18] Wiedemann, *op. cit.*, 263. *Cf.* Maspero, *Romans et poésies au Papyrus Harris*, no. 5, pp. 38 *sq.*

[19] Maspero, *Dawn of Civilization*,[3] New York, 1897, p. 211 *n.*[1].

indicating the things to be done or avoided, the animals whose encounter or sight should be shunned, adds a summary of the motives which justified his recommendations. In almost every case this is a legendary episode of the gods. Men were benefited or injured by the pleasure or pain of the gods.[20]

The Babylonian augural calendar for the intercalated month of Elul and for Marcheswan (*supra*) is not the only example of omen literature to be found in the cuneiform records. We possess a document,[21] preserved in great part, which includes every day in the year, either specifying its nature as favorable or unfavorable or adding other indications with regard to its character. A note like "hostility," appended to the twenty-first day of the second month is an omen that the gods are out of humor on that day; the twenty-third day described as "heart not good" is explained by the contrast "heart glad" on the following day. Not content with a simple distinction of favorableness and unfavorableness, the calendar also deals with days "wholly favorable" and "half favorable." Still other days are noted as those portending "distress," "trouble," "tears," "injury," "darkness," "moon obscured," and the like. The precautions and prohibitions set forth for unlucky days include, among many others, the familiar taboos of eating specified foods, of sexual intercourse, of buying and selling, wearing bright garments, travelling, holding law courts, and so on. The calendar contains a number of references to the king and may very probably have served the priests in their instructions to the monarch. As Professor Jastrow remarks, the belief in lucky and unlucky days has a distinctly popular flavor, making it probable that the priests embodied in their lists many of the notions that arose among the people, and gave them an official sanction.

The Greeks in Hesiod's time possessed an elaborate calendar

[20] Maspero, *New Light on Ancient Egypt*, 129.

[21] Rawlinson, *Cuneiform Inscriptions of Western Asia*, v. pls. 48, 49; Jastrow, *Religion of Babylonia and Assyria*, 379 *sqq.*; Bohn, *Der Sabbat im Alten Testament*, 55 *sqq.*

of lucky and unlucky days.[22] "Sometimes a day is a stepmother, sometimes a mother," Hesiod remarks pithily. What ancient regulations for the observance of tabooed periods are embodied in the calendar is problematical. However, many of the prohibitions with which the first part of the poem concludes are thoroughly primitive taboos.[23] Hesiod does not mention any days when labor is to be entirely abandoned. We may assume, perhaps, that at the period when the Hesiodic poems were composed the rationalizing temper of the Greeks had gotten somewhat the better of their superstitious fears. In the Hesiodic list, as in the Egyptian and Babylonian calendars, appears the notion that not only whole days but even parts of days have an individual character, working for good or evil. Thus the middle ninth (the nineteenth) is said to be "a better day toward afternoon." The "fourth which followeth the twentieth of the month is the best at dawn, but it is worse toward afternoon." Hesiod does not distinguish the months as lucky and unlucky, and the days which possess either of these attributes are the same for every month. He gives no explanation for their luckiness or unluckiness though traces of a rationalizing process are perhaps observable in the directions regarding the fifths (presumably 5, 15, 25) which are unlucky "because on the fifth men say the Erinyes attended the birth of Oath (Horkos), whom Strife bare to punish perjurers." The seventh again is lucky "for on that day Leto bare Apollo of the Golden Sword."[24] The Hesiodic injunctions did not cease to be observed in the later classical epoch and exercised great influence on civil and political life. The superstitions relating to unlucky days only gained a firmer foothold under the influence of Chaldean and Egyptian doctrines, in pass-

[22] *Opera et Dies*, 765–828. On the Hesiodic calendar see E. E. Sikes, "Folk-Lore in the Works and Days of Hesiod," *Classical Review*, 1893, vii. 389–94, and the Addenda to Mr. A. W. Mair's admirable version of Hesiod, Oxford, 1908, pp. 162–66. For a full analysis of the calendar see A. Mommsen, *Chronologie, Untersuchungen über das Kalenderwesen der Griechen*, Leipzig, 1883, pp. 39–46.

[23] *Opera et Dies*, 724–64.

[24] *Ibid.*, 820, 802, 770.

ing from Greece to Rome and from Rome to western Europe.[25]

The old Irish, whose *geasa* or taboos have been previously noticed (*supra*), entertained a great respect for lucky and unlucky days. How they were rationalized by Christian teachers is amusingly illustrated by a marginal note to a medical treatise bearing the date 1733. "The prohibited Mondays of the year. The first Monday in April, on which day Cain was born and his brother slain. The second Monday in August, on which day Sodom and Gomorrah were destroyed. The thirteenth (the third Monday of ?) December, on which day Judas was born that betrayed Christ."[26]

Anglo-Saxon calendars give a total of about twenty-four evil days out of the year, when it is dangerous if not fatal, to begin an enterprise or to travel. These *dies mali,* it is worth noting, were called "Egyptian days." A manuscript calendar dating from the reign of Henry VI gives a list of thirty-two such days. After the Reformation the old evil days appear to have abated much of their ancient malevolent influences, and to have left behind them only a general superstition against fishermen setting

[25] The Vergilian calendar (*Georgica,* i. 276 *sqq.*) is obviously an imitation of the Hesiodic, though it may be supposed that Vergil, with his intimate knowledge of the farmer's life, incorporated in his catalogue of lucky and unlucky days some of the peasant lore of ancient Italy.

[26] Eleanor Hull, "Old Irish Tabus, or *Geasa,*" *Folk-Lore,* 1901, xii. 48. In the course of this article Miss Hull has given a new interpretation of the *ces noiden Ulad,* that extraordinary weakness or prostration which at certain times overtook the king and all the grown warriors of Ulster. In the tale of "The Debility of the Ultonians" it lasts for five days, but in the epic of *Táin bó Cuailgne,* for about four months, during which time Cúchulainn, who, with women and children, was exempt, kept up a single-handed combat against the invaders of Ulster. Miss Hull believes that five days was the real length of the Ultonian abstention from work and warfare, this period being exaggerated in the epic into four months, perhaps to cover Cúchulainn with glory. She would understand such a season of abstinence as analogous to the tabooed periods of other peoples. But this hypothesis, it must be admitted, does not explain why women and children were not subject to the taboo.

out to fish, or seamen to take a voyage, or landsmen a journey, or domestic servants to enter a new place—on a Friday.[27]

CONCLUSION

It is fairly obvious, from the foregoing discussion, that the belief in days lucky and unlucky, has operated, like other superstitions, to retard the development of mankind. They hinder individual initiative and tend to prevent the undertaking of lengthy enterprises which may be interrupted by the recurrence of an unfavorable period. Their elaborate development compels fitful, intermittent labor rather than a steady and continuous occupation. The Burman, for example, "is so fettered by his horoscope and the lucky and unlucky days for him recorded therein, which are taught him in rhymes from childhood, that the character has been given him by strangers of alternate idleness and energy. But both are enforced by the numerous days and seasons when he may not work without disaster to himself. Unlucky days cause him so much fear that he will resort to all sorts of excuses to avoid business on them. Similarly, on lucky days he will work beyond his strength, because he is assured of success."[1] These remarks, by a keen observer, are capable of a wide application to various primitive races. The belief in unfavorable seasons may even directly affect political and social progress where, as in modern Ashanti and in ancient Rome, assemblies could not be held, nor courts of justice stand open, nor armies engage the enemy, when the unlucky day came round. It is equally obvious that all such beliefs play into the hands of the astrologer and magician, tending further to strengthen the bonds with which superstition enchains its votaries.

Yet the picture is not wholly dark. To the student of primitive religion and sociology nothing is more interesting than the contemplation of that unconscious though beneficent process

[27] Chambers's *Book of Days*, i. 42. See also John Aubrey's quaint essay on "Day-fatality; or, some observations of days lucky and unlucky" (*Miscellanies upon Various Subjects*, London, 1784, pp. 3–36).

[1] R. C. Temple, "Burma," in Hastings, *Encyclopaedia of Religion and Ethics*, iii. 29.

which has converted institutions based partly or wholly on a belief in the imaginary and the supernatural into institutions resting on the rock of reason and subserving human welfare. Though the origin of tabooed and unlucky days must be sought in gross superstition, sooner or later they acquire a social significance and may then be perpetuated as the primitive holidays long after their earlier meaning has faded away.

The extent to which the day of abstinence provides an intermission of labor may be illustrated from various regions. In Ashanti, an old writer calculates that there are only a hundred and fifty to a hundred and sixty days in the year during which business of any importance can be safely undertaken.[2] In ancient Egypt the number of unlucky days varied according to the months. Thus there were six in Paophi, seven in Khoîak and Phamenôt, five in Pharmouti. It may be reckoned "that popular superstition rendered useless about one-fifth of the year."[3] In the old Roman calendar out of three hundred and fifty-five days, at least a hundred and eight were completely *nefasti* when no judicial or political business could be lawfully transacted.[4] In the Julian calendar the total number of days available for secular business had fallen to two hundred and thirty-nine out of three hundred and sixty-five. Of the *dies nefasti,* on which the state expected the citizens so far as possible to intermit their own private business and labor, nearly a half were celebrated as public *feriae,* or festivals of the gods (*supra*). As the Roman passion for holidays and their attendant games and spectacles increased, we find the number of days given over to such amusements rising from sixty-six in the reign of Augustus to eighty-seven in that of Tiberius, and under Marcus Aurelius to a hundred and thirty-five. By the middle of the fourth

[2] Beecham, *Ashantee and the Gold Coast,* 188.

[3] Maspero, *New Light on Ancient Egypt,*[2] 135.

[4] This calculation assumes 191 *dies fasti et comitiales,* on which the public assemblies might meet, 45 *dies fasti non comitiales,* available for judicial business though not for political gatherings, 108 *dies nefasti,* 3 *dies fissi,* 11 *dies intercissi* (*Mommsen,* in *Corpus Inscriptionum Latinarum,* Berlin, 1893, vol i. pt. i.[2] 296). Wissowa (*Religion und Kultus der Römer,* 368 *sq.*) reckons 109 *dies nefasti,* 192 comitial days, and 43 *dies fasti non comitiales.*

century their number had reached one hundred and seventy-five.[5] The Greek religious festivals, small and great, are estimated to have occupied about seventy days in the Athenian year. Thus the proportion of holidays to working days was not greatly different from what it is with us; but their occurrence at irregular intervals and grouping together around the major festivals must have caused much more interference with the routine of daily life.[6] In modern China, so many festivals in honor of deities are observed as holidays, that, as has been expressly said, they take the place in a large measure, of the Sabbath institution.[7] To what extremes the practice of abstaining from labor at sacred times may extend is further illustrated in Abyssinia, where the numerous feasts and fasts are so strictly observed as to render about six months of the year prohibited for any kind of employment.[8]

Human nature, it has been said, is always ready for the shift from fast to feast. This transition with all its subtle and manifold results on the organization of society may be followed under our own eyes. The passage of the holy day into the holiday, beginning in the lower culture, promises to reach its culmination in the thorough secularizing of all the great festivals of the Christian year. That evolutionary movement, whether for weal or woe, at least provides a singularly instructive illustration of those close relations between religion and social progress which must ever impress the inquirer into the early history of mankind.

[5] L. Friedländer, *Roman Life and Manners under the Early Empire*, London, 1908, ii. 11 *sq.* Mommsen (*op. cit.*, 297 *sqq.*) gives a list of the ancient *feriae* and of those added in the imperial epoch. No new public *feriae* of regular recurrence were introduced during republican times. Although the ancients were careful to distinguish the *feriae* from the *ludi* (*cf.* Gellius, ii. 24, 11. *Diebus ludorum et feriis quibusdam*), yet in the imperial age the transformation of the *feriae* into joyous holidays had been so far effected that many of them were celebrated much as were the *ludi*. *Cf. supra.*

[6] Jane E. Harrison, in *Companion to Greek Studies*, Cambridge, 1905, p. 324. *Cf. supra.*

[7] J. H. Gray, *China*, London, 1878, i. 249. The same statement is made of the Korean religious holidays (Griffis, *op. cit.*, 295).

[8] W. C. Harris, *Highlands of Ethiopia*, New York, 1843, p. 280.

ON THE POLITICAL ALLEGORY IN "THE FAERIE QUEENE"[1]

BY PHILO M. BUCK, JR.

Spenser himself has told us that underlying the moral allegory of the *Faerie Queene* we shall find, if we look closely enough, an historical allegory, perhaps far less distinct in outline, but certainly not less interesting. "In the Faery Queene (he says in his letter to Raleigh) I mean glory in my general intention; but in my particular, I conceive the most excellent and glorious person of our Soveraine the Queene, and *her kingdom* in Faery Land."

Again in the Introduction to the Third Book—

> "But, O dredd soveraine,
> Thus far forth pardon, sith that choicest witt
> Cannot your glorious pourtrait figure playne,
> That I in colour'd showes may shadow itt,
> And antique praises unto *present persons* fitt."

And in the Introduction to the Second Book—

> "And thou, O fairest princesse under sky,
> In this fayre mirrhour maist behold thy face;
> And thine own realmes in lond of Faery,
> And in this Antique image thy great ancestry."

Furthermore, in the sonnets addressed to the Earl of Oxford, the Earl of Essex, Lord Howard of Effingham, Lord Hunsdon, and Sir John Norris he directly states that they have a place in the allegory. The dedication, then, to the queen of "these his labours to live with the Eternities of her Fame" is no daring

[1] The allegory that underlies the narrative of the first three books is taken up in this article. These books are all that composed the first edition of the poem. The fourth, fifth and sixth books were written after the poet's return to Ireland from a visit to England. In them, as I shall hope to show in a later article, the allegory, instead of having to do with the larger and better known affairs of Elizabeth's reign, is more or less episodical in character and deals largely with court gossip.

glorification of his own verse. It is the assertion that the deeds there chronicled, under the guise of an allegory, are those which shall make her age one of heroic grandeur.

The beginning of the time of the action is clearly given.[2]

> "Ye see that good King Uther now doth make
> Strong warre upon the paynim brethren, hight
> Octa and Oza, whom he lately brake beside Cayr Verolame."

Uther died shortly after the battle of Verulam. By Uther possibly is meant Henry VIII. The paynim brethren can hardly be other than Francis I and Charles V, with whom Henry was engaged in ceaseless war.[3] It was during this time that England entered the fold of the reformed church, the triumph of which under Elizabeth is the climax of Book I.

For the sake of clearness it will be well to take up the books in their order. One thing, however, must be kept clearly in mind. Spenser was a poet, not an historian, and the order he follows is seldom historical, nor are the characters ever more than occasionally consistent. Hence any attempt to read into the poem a consistent development of the historical events of the time will be followed by immediate disaster. Spenser loves to mystify his readers. In addition, too close an allegory at that time would have nipped the poem in the bud. Elizabeth never spoke plainly and to the purpose herself, much less allowed it in others.

Book I. *The Legend of Holiness*

In the First Book the moral allegory is predominant. The Red-Cross Knight is "Saint George of Merry England,"[4] the descendant of the old Saxon Kings, the spirit of the English people. Una is true religion, the Unity of the Faith.[5] She rides on an ass (humility), and leads a lamb (innocence). But the historical allegory is at times clear. Arthur is clearly the Earl of Leicester. In Holinshed's[6] description of the welcome tendered

[2] Book III, Canto iii, St. 52.

[3] Philip II is called a paynim king. Book I. xii. 18 and Book I. xi. 7.

[4] Book I. x. 61.

[5] *Ephesians* IV. 13.

[6] *Chronicles*, London, 1587, vol. 2, p. 1426.

Leicester by the Dutch in 1586 occurs this passage—"Over the entrance of the court gate was placed aloft upon a scaffold, as it had been in a cloud or skie, Arthur of Bretaine, whom they compared to the Earl." Leicester's courtship of the queen was notorious; and there are several direct references in the poem to Arthur's long pursuit of the Faerie Queene, Gloriana, or Tanaquill.

—"fayrest Tanaquill
Whom that most noble Briton Prince so long
Sought through the world, and suffered so much ill."[7]
"For only worthy you [Arthur], through prowess priefe,
(Yf living man mote worthy be) to be her [Gloriana's] liefe."[8]

St. George, England, sets out for the delivery of Una, the true faith, and the conquest of the dragon of Sin. Almost immediately comes up the storm in the church, and England is led into the Wandering Wood and to Error's Den. These are the troubles that come when England is in the grip of a false faith, and when even true religion loses her way. Error comes forth and confronts the champion, and the first battle of the Reformation is on. In the struggle many books and papers and foul-shapen monsters are vomited up by Error, referring to the many pamphlet publications given out during the latter years of Henry VIII when the doctrinal war was hottest.

But the reformation was not to be allowed to proceed unattacked by popery. The knight and Una meet Archimago, the genius of Catholicism. Force could no longer be employed against England, but Henry's allegiance to the ancient forms of doctrine and ritual was never seriously shaken. His Protestantism went no farther than the break with the pope and the announcement of himself as the supreme head of the Church of England. True Religion and England are separated by the mischief of Archimago. This must refer to the last years of Henry's reign when he was equally hard on Catholics and Protestants. He executed Sir Thomas More for denying the royal supremacy in matters of religion, and many like the young Anne Ascue for equally pronounced Protestantism.

[7] Introduction i. St. 2.
[8] Book I. ix. 17.

I am inclined to regard Archimago as Cardinal Pole or Bishop Gardiner, both of whom were expelled from England in the reign of Edward VI, but plotted ceaselessly for the return of England to the ancient faith; and on the accession of Mary guided the Catholic policy of the Queen. At first I was inclined to regard him as typifying the Jesuits who so unceasingly plotted the overthrow of Elizabeth. This, however, is probable only in the later books where the chief events of the reign of Elizabeth are shadowed in the allegory.

The Red-Cross Knight, now divorced from True Religion, wanders aimlessly until he meets Sans Foy and Duessa.[9] Sans Foy is defeated and slain, and the victor takes Duessa as his companion. The former (the faithless one) is the eldest of three brothers, of whom the other two are Sans Loy (the lawless one), and Sans Joy (the joyless one). Their father is old Aveungle (the blind one). They seem to be historical characters—Sans Foy suggests France,[10] which was for a while under the faithless Henry II, who we know made advances for an alliance with Queen Mary (Duessa, as we shall see below). Sans Joy can hardly be any other than the king of Spain, Philip II. Sans Loy, the lawless one, as we shall see, may be the figure of the Duke of Alva. Aveungle, the blind one, may stand for the Pope. The alliance with France was broken off, and Mary came to be the Queen of England. The jockeying of Philip of Spain and Henry of France for an advantageous position on the accession of Mary to the throne, and the final defeat of France are well shown by Martin Hume.[11]

[9] For some reason or other Spenser avoids any reference to the reign of Edward VI and the protectorships of Somerset and Northumberland. Perhaps the fate of these two protectors, and the fact that one of them was the father of Leicester, made it a delicate subject for even an allegory. In the list of British Kings in Book II, Canto xi both Edward and Mary are excluded.

[10] France was always regarded by the English as being utterly devoid of faith, either in religion or policy. The Massacre of St. Bartholemew, 1572, did not restore English confidence in a French pledge. This was the time of the Guises.

[11] *Two English Queens and Philip*, p. 41.

Duessa calls herself Fidessa. Mary prided herself on her fidelity to the Catholic Church. Indeed, her allegiance to the church became an obsession and she, contrary to all maxims of statesmanship, outraged the consciences of her subjects, and burned their bodies in Smithfield. Duessa is the daughter of the Emperor of Rome, who in her youth had been betrothed to a meek and debonair prince, but her hopes had been slain. Mary was born in the shadow of the Romish Church, but early her hopes of becoming Queen of England were checked by the decree of divorce that Henry insisted on obtaining from his Council, in order that he might marry Anne Boleyn.

Upton offers an interesting theory.[12] He considers Duessa as only the Catholic Church, the Pope's daughter. His plan to marry her to the prince "meek and debonair" was his desire to annex to Catholicism the eastern Church of Constantinople. This plan was frustrated by the capture of the East by the Turks (Sans Foy). But there are several inconsistencies in this view. In the first place, the prince she was to marry was slain, but not by Sans Foy; and she came into his possession long after her virgin widowhood began. Further, England never came into conflict with the Turks as Upton's theory would have us believe. It seems more reasonable to regard the defeat of Sans Foy as the diplomatic check the French received when Mary became queen and married Philip.[13] This broke down Henry's policy of temporizing with France and Spain, aiding each in turn, but never finding himself engaged in any serious European war. The diplomatic defeat of the French led to the war against France, when England found herself suddenly attacked and Calais captured. As we shall see, the result of the Red-Cross Knight's alliance with Duessa led to his capture in an unexpected hour by Orgoglio. But of this later.

The next adventure that befalls the Red-Cross Knight, now traveling with Duessa, is their meeting with Fradubio (the wavering one) and Fraelissa (the frail one), both of whom have been turned into trees by the wiles of Duessa, and are so to remain

[12] Upton's *Faerie Queene*, ed. 1758. See note on this canto.
[13] Martin Hume, *Queens of Old Spain*, p. 216.

until they are "bathed in a living well." I take this to be a covert allusion to the pathetic fate of Lord Guilford Dudley and Lady Jane Grey. Dudley, through his father, Northumberland, and his party, had aimed at setting up the claims of Lady Jane to the throne of England as against those of Mary, Duessa, and on the failure of the scheme the young couple met their fate on the block. In the story Fradubio had dared to compare the beauty of Fraelissa and Duessa, which won him the latter's enmity.[14]

The story now (Canto iii) turns back to the wanderings of Una (True Religion), who now in many ways suggests the character of Elizabeth. England has accepted Mary (Duessa); and Una (Elizabeth) is compelled to wander through the woods in search of her natural protector. She is not, however, left unguarded. The Lion rushes forward at first to devour her, but seeing her beauty and innocence, he immediately becomes her devoted follower. Clearly the Lion represents the common English people, who guarded Elizabeth, as well as true religion, from the power of Mary, which on several occasions was nearly roused to crush her.[15] As she travels forward she meets Corceca (Blind Devotion —*cui caecum est cor*), and Abessa (Monastic Devotion), who are kept in plenty by the thieving of Kirkrapine (Robber of the Churches). The latter is slain by the Lion, an obvious allusion to the abolishment of the monasteries.

She now is met by the subtle Archimago disguised as the Red-Cross Knight whom she welcomes with delight. Elizabeth was constantly at this time surrounded by the most intricate deceit. She was courted by Lord Thomas Seymour, brother of the Protector, Somerset, and who had married King Henry's widow, Catherine Parr; and it was only by her inimitable power of adapting herself to all circumstances that she was able to escape disgrace and death. Catholic agents and spies were constantly around her. But Archimago is attacked by Sans Loy, who thinks

[14] Canto ii. 37.

[15] At this point Upton has a note. "Christian Truth was in a very unsettled state during the reigns of King Henry the Eighth, and of Edward the Sixth. But after their deaths, she was entirely in the will and power of the Lawless Victor." He regards the lion as representing Henry VIII. Vol. 2 p. 367.

the disguised magician is the slayer of his brother, the Lion is slain, and she carried away as captive by the lawless one. Elizabeth, even before the death of Mary, was courted by Philip of Spain. One of the first ambassadors to come to congratulate her upon her becoming Queen was the Spanish Duke of Feria. And he again proposed the match between Elizabeth and Philip II.[16]

True Religion had a hard time of it after England and Mary were united. It found itself protected only by the people of England, and was safe only in the wilderness. It suffered from Blind Devotion and the Monastic System (which Mary sought to re-establish). It was tempted by the preaching of Gardiner and Pole; and finally, in the Netherlands especially, it was cruelly oppressed by the Duke of Alva (Sans Loy), the man who respected no laws in his treatment of Dutch nobles and burghers. That Alva evidently is meant by the character of Sans Loy is made a little clearer in a later canto.

The story now turns to the Red-Cross Knight who is led by Duessa to the House of Pride, the Court of Lucifera. The palace is beautiful to the eye but built on an insecure foundation, and already is in places ruinous and old. This is obviously the Roman Church, and Lucifera, the maiden queen, the Scarlet Woman. The description of her court is an extended moral allegory taken partly from the Book of Revelation and partly from mediaeval allegorical morality stories. Thus, the six unequal beasts who draw her chariot are, with Pride, the seven deadly sins. The six wizards who enable her to uphold her usurped power may be the College of Cardinals. It is a picture of the decadent yet splendid court of Rome.

The political allegory is as clear as the moral. Duessa (Mary) brought England back into the fold of the Catholic Church. But England's acceptance was not a joyful one, for he remained aloof from Lucifera while Duessa rode next to her chair. There were constant uprisings in England against the close alliance between England, Philip, and the Pope, and especially against the mar-

[16] See Hume, *Two English Queens and Philip*, chapter v.

riage of Mary and Philip. These were led successively by Sir Peter Carew, the Earl of Suffolk (Lady Jane Grey's father) and Sir Thomas Wyatt. Indeed the distrust of the people went so far that Philip at Alva's suggestion had to ask that Cardinal Pole's legatory powers be revoked on account of English hostility. This was done in 1557; and may also be referred to in the defeat of Archimago by Sans Loy.[17]

But for the time being, at any rate, all looks peaceful; and Lucifera with her whole band rides out to take an airing. This is doubtless a reference to the apparent political and religious alliance, about 1556 (at the time of the abdication of Charles V), when England under Mary, Spain and the Netherlands under Philip and his viceroy Alva, France under the Guises, and Austria under Maximilian, were all banded together to extirpate heresy, and to bring back the whole world under the one dominion of the Church of Rome. But the airing is not a cheerful one, for the land is covered with a foggy mist that promises danger, and strewn with the bones of those who have already given up their lives for religious freedom.

At this point, Sans Joy, the youngest brother, appears on the scene. Duessa immediately secretly allies herself with him, and a fight is imminent between the Red-Cross Knight and that champion. Next day the combat comes off, and Sans Joy is almost defeated and only saved from Death by Duessa's begging his life from Night, her grandparent as well as Sans Joy's. This evidently pictures the marriage of Mary and Philip, the antagonism of England, and the elimination of Philip's direct control of English politics. Duessa and Sans Joy are related as were Mary and Philip (cousins). Several things are notable in this. Duessa is more attached to Sans Joy and Lucifera than to the Red-Cross Knight whom she tried to betray. The battle does not end in Sans Joy's death, nor even in his defeat. The Red-cross Knight against his will is made much of by Lucifera and her court, and as soon as he can he secretly slips away from the court, yet cannot get away from the false Duessa. All these things seem to make it perfectly clear that Spenser had in his mind the unfortunate

[17] See Hume, *Two English Queens and Philip*, chapter iv.

position of a half-protestant England united to a Queen whose love of Rome and Spain was greater than her love of her country, which she would at all costs betray to her faith; and finally England's resolute turning away from Spanish and Catholic intrigue and insisting on political and religious freedom from foreign interference. The queen, however, was still obeyed though her unfitness to rule had more than once been demonstrated. Now came the crowning disaster of Mary's reign, due directly to her love for Philip and Rome.

In the meanwhile, however, the adventures of Una are taken up (Canto vi). True Religion, as we remember, was left in a rather unpleasant situation, carried off in the lawless arms of Sans Loy. I understand this as a reference to the hardships suffered by the Dutch protestants at the hands of Alva. She is saved by the wild satyrs, the "Salvage folk"[18] who protect her, and whom she teaches the way of truth. Here she remains until she meets Sir Satyrane, a noble knight, the son of a Satyr by Thyamis, who is married to a loose, unruly swain, Therion. They wander forth to find the Red-Cross Knight but fall in with Sans Loy who is wandering in search of her. A battle follows whose issue we are not told. Upton would regard the satyrs as the rural population of England, and Satyrane, from the circumstances of his birth and general character, as Sir John Perrot, the illegitimate son of Henry VIII. This may be true. Yet I feel that he had in mind the suffering of the Dutch. The Satyrs, the wild men of the woods, were perhaps the Beggars of the Sea, who defied the force of Alva, and Satyrane, who was long in fight with Alva, the Prince of Orange, who also gave much aid to Elizabeth in her conflict with Spain.

The story now (Canto vii) goes back to the Red-Cross Knight and Duessa. In an hour of careless ease, while they are disporting themselves near the well of feebleness, he is set upon unex-

[18] The taming of the Salvage Folk by Una may be an echo of one of the incidents of the entertainment at Kenilworth. At the gate of the castle, as the queen entered, was a huge "Salvage man" armed with a club who denied entrance in the most imperious manner; but at the sight of the queen, he humbled himself, and paid his allegiance to her truth and beauty.

pectedly, while unarmed, by Orgoglio, the giant Pride, and is captured and thrown into a dungeon. Duessa now gladly becomes the highly honored mistress of Orgoglio, and is mounted on a huge, seven-headed serpent. Clearly the sudden capture of Calais, 1558, is here alluded to. Mary had left the citadel entirely in an unprovided condition, while she made war, to please her husband, against France. Francis, Duke of Guise, the embodiment of pride and arrogance, captured the undefended place, and England's cup of humiliation was full. Duessa, I think, has suddenly shifted her political rôle, and is now Mary, Queen of Scots,[19] the young Queen of France, whom the Guise and Spanish party would advance to the crown of England.

Such was the condition of affairs when Elizabeth came to the throne in 1558. Una has left Satyrane and Sans Loy fighting, and meets her dwarf who tells her that her natural protector is in the power of Orgoglio. A champion appears in the person of Arthur,[20] Leicester, and the task of freeing England from foreign domination is begun. Always Leicester was to the popular mind, at least, identified with the party that opposed the Spanish and French influence. In 1586 he led the English expedition against Spain in Flanders. He was the popular English hero.

Arthur, with the help of his magic shield, kills Orgoglio, although Duessa had nearly over-powered his Squire with her poison. The allegory is, of course, the reuniting of England and True Religion, or the accession of Elizabeth, owing, according to Spenser, to the faithfulness and might of the Earl of Leicester. A French fleet and force under D'Oysel sent into Scotland to prepare that country for a war on England, to enforce the claim of Mary Stuart to the English crown, was defeated at Leith by Lord Grey, a close relative of Leicester, in 1560, and England was saved. The beauty of Duessa is stripped from her, and her native hue is shown. The claims of Mary, Queen of Scots, to

[19] Duessa is called by the poet the Scarlet whore. The English, and especially the Scotch under John Knox, were no less complimentary to the illfated Mary. In a later book Duessa is certainly Mary Queen of Scots.

[20] Arthur is accompanied by his squire Timias whom most commentators have understood to be Sir Walter Raleigh, but of him more later.

the throne of England are shown to be no more than an idle terror. All that now remains is to strengthen England and to establish the true church. This is done in the cantos that follow.

First England's despair of ever being able to make her way unaided through the perils that surrounded her is admirably portrayed in the adventures of the Red-Cross Knight and Despair, and of Terwin and Trevisan, the latter of whom has already fallen victim to Despair's alluring logic. Terwin and Trevisan may well represent some continental states who had found the Catholic oppression too strong. At the beginning of Elizabeth's reign the power of the Protestants was at its lowest ebb, and state after state was apparently succumbing to the attacks of the revived Catholic vigor. This was especially true in France and Saxony. In the first, the Guise faction was apparently in full power; and in the other, the young Elector Maurice had apparently sold himself to the reactionary party. Una, religion, however, saved the Red-Cross Knight, and he was taken to the House of Holiness to recuperate. He there learns that he is the descendant of the early Saxon Kings of England, and is sent forth to fight the battle of the faith against the great dragon.

The dragon is slain; and Una and St. George, as he is now called, are united. As he is about to be married to Una, the false Duessa sends Archimago with a letter claiming that she has a prior claim on his hand. This is probably the allegory of the claim of Mary, Queen of Scots, to the throne of England.[21] But Archimago is uncased and all ends happily.

Book II. *The Legend of Guyon, or Temperance*

The Introduction to this Book makes it perfectly clear that in what follows Spenser has a political significance. The hero of this Book is Sir Guyon, the guide; and he is bound on a quest to avenge the death of the parents of Ruddymane (the bloody hand), a babe whose parents, Mortdant and Amavia, had been slain by the wiles of the wicked sorceress, Acrasia, who dwells in the Bower of Bliss to entrap and utterly unman good knights.

[21] There may be an allusion here also to the accusation of Mary, Queen of Scots, that Elizabeth had been too free with her favors with both Leicester and Alençon.

According to Upton, Guyon is Robert Devereaux, Earl of Essex, and Ruddymane alludes to the rebellion of the O'Neills of Ireland, whose badge was the *bloody hand.* The Palmer who accompanied Guyon he finds to be Whitgift, afterward the Archbishop of Canterbury, who was tutor of Essex. Essex was bred among the Puritans, and was himself a Puritan; and according to Sir H. Watton, "his countenance was demure and temperate." "The Earl of Essex was master of the horse to Queen Elizabeth: and great care is taken to let us know very particularly concerning Sir Guyon's 'lofty stede with golden sell'."[22] Later in Book III, Canto i, Guyon dares to match himself with Britomart, Elizabeth, and is overthrown, and Upton pertinently asks, "And has not the poet with the finest art managed a very dangerous and secret piece of history?"

This all seems very good, but will not bear close scrutiny. In the first place, Essex was Leicester's son-in-law, and this relation between Guyon and Arthur is hardly borne out by the story. Guyon appears rather to be much older than Arthur. Again young Essex was not in Ireland fighting the O'Neills until long after the poem was published in 1589. His father, Walter,[23] the elder Earl of Essex, was there, and lost his life from exposure on the battlefield and from the defeats he suffered. Further, no account is taken by Upton of Acrasia, the chief character, next to Guyon, in the poem. Finally it is distinctly stated in Canto i, St. 6, that Guyon

> ". . . knighthood took of good Sir Huon's hand,
> When with King Oberon he came to Faery land."

In Book II, Canto x, St. 75, we learn that Oberon was Henry VIII. The younger Earl of Essex was not born during the reign of Henry VIII, and the elder was but a boy when Henry VIII died. This seems to settle the Essex theory.

To me Guyon represents Thomas Radcliffe, Earl of Sussex. He was, at least during the first years of Queen Elizabeth's reign, a great favorite, perhaps ranking next to Robert Dudley,

[22] John Upton's *Faerie Queene,* ed. 1758.

[23] The character of the elder Earl of Essex is in keeping with the character of Guyon. See Holinshed, *Chronicles,* 1587, p. 1265.

Earl of Leicester. Among the nobles of Elizabeth's reign, he would be entirely fitted to wear on his shield the countenance of the Maiden Queen as did Guyon, for in 1572 he was the Queen's champion. He was knighted in 1544 when Henry VIII set out for France. Sir Huon, of Bordeaux, may here refer to the French King whom Henry met on this occasion. Sussex was one of the six lords who bore the canopy of Henry VIII at the royal funeral. His character, too, was peculiarly fitted to the part which Guyon plays in the story. He was ever one of the most temperate, level-headed statesmen of Elizabeth's reign, and one who was never except temporarily out of Elizabeth's favor.[24] But in order to see how well he fits into the story, we shall have to study the book canto by canto.

In Canto i we first see Archimago, who has escaped from the prison into which he had been cast by St. George in the last book, and is determined to avenge himself upon that knight, now that Una (True Religion) is beyond his power. He will try "forged treason or open fight," any means that may be presented to his hand. Of course, Archimago now is the Jesuits who had fled from England, and came flocking back from the seminary at Amiens with the purpose of harming England, either by treasonable murder, or by foreign force. Among these the most famous were Allan, Parsons, Sanders, Campion. The readiest means to their hands was the claim of Mary, Queen of Scots, Duessa.

Archimago now meets Guyon and persuades him to take up the cause of Duessa, under the old name Fidessa, a damsel, he says, who has been foully wronged by St. George. Guyon at first takes up her cause, but as soon as he sees the maligned hero, he changes his mind and the two knights are allied. The allegory is clear. During Mary's reign in England, Sussex had been one of her chief ministers. He had even gone so far as to help to suppress the Wyatt Rebellion. But when Elizabeth came to the throne, he resigned his deputyship of Ireland and came to offer his free allegiance to the new Queen. His religion, too, apparently gave him little concern, for he gave his unqualified assent to all

[24] For an account of the chief events in the life of the Earl of Sussex, see the *Dictionary of National Biography*.

the changes which Elizabeth inaugurated. The question of his loyalty was raised in 1569 when he was appointed to suppress the Northern Rebellion (see later), but he was amply vindicated by commissioners who were sent out by Elizabeth to spy on him.

Guyon in his quest to destroy Acrasia is accompanied by a Palmer who symbolizes the temperance that is to distinguish the deeds of this hero. By Acrasia I understand the Queen of Scots and her strange power (so clearly shown in Hume's *Love Affairs of Mary, Queen of Scots*) over the hearts and minds of nearly all the men who came under her influence. Of all the men who came near her, there were only two who were not affected by her feminine appeal. They were Sir Amyas Paulet and the Earl of Sussex. The Palmer seems to be the old Scotch reformer, John Knox, who, irritated by her feminine charms, broke out into most intemperate temperance in his *Monstrous Regiment of Women.* We will recollect that, according to Spenser's own preface to the poem, on the second day of the feast which the Faerie Queene held in her court, a Palmer came bearing a babe with red hands and asking for revenge against Acrasia who had caused the tragedy. John Knox made a similar appeal to England against the government of Mary and had offered the young prince, James, son of the murdered Darnley, to the English Queen as a ward.

In the story of the poem, Guyon and the Palmer come upon the dying Amavia, the dead Mortdant, and the poor orphan child dyed with the sign of the horrible murder. It seems clear. Scotland, in the person of Knox, asks England to free the country of the woman who could allow Darnley, her husband, whom she has inveigled into a marriage, to be murdered in order that she might enjoy the love of the Earl of Bothwell.

We will recollect that the child was made over, not to the Faerie Queene, but to Temperance, Medina, who was to bring it up, and teach it who had caused the ruin of its parents. Young James was taken away from his mother shortly after his birth, and given into the hands of the Lords of the Congregation, to be brought up and taught to rule.

In Canto ii Guyon and the Palmer carrying the child repair to the Castle of the Three Sisters, Perissa (Excess), Medina (Tem-

perance), and Elissa (Deficiency). He there meets the lovers of the first and third, Sans Joy and Huddibras, and a conflict is averted only by the prayers of Medina. If there is any political allegory here, it is so slight that only a guess can be made. The babe is made over to Medina.

The third is a most interesting canto. While Guyon had been busy with the babe, a vain braggart, Braggadocchio, had stolen his horse and lance, and meeting with Trompart, a congenial soul, had gone forth to show his finery to an admiring world. I am inclined to agree with Upton and see in this a reference to Alençon, Anjou as he was known after the first Duke of Anjou became Henry III of France, and Simier, and their courtship of Queen Elizabeth. Guyon is embarrassed by their theft. Sussex was for a while a warm advocate of the marriage, and by that step fell into some political troubles. The whole story is told in Hume's *Courtships of Queen Elizabeth* and need not be more than referred to here.

Both Alençon and Simier were of course obstacles in the way of Leicester. Indeed Leicester went so far as twice to hire desperadoes to murder Simier. And Simier retaliated by telling Elizabeth of the Earl's marriage to the Countess of Essex, which well nigh ruined the favorite politically.

At this point Archimago appears on the scene and offers to get for Braggadocchio Arthur's sword. That is, he promises to undermine Leicester's influence at court. And both these things are actually done. Leicester naturally did not desire the Alençon match. But Sussex and Burleigh and others, who favored it, came very near to bringing it about, and for a time Leicester's influence was on the wane. Archimago, of course, was the strong Catholic pressure that supported the match for conscientious reasons, in order that the growing spirit of Protestantism might be checked. The chief obstacle to the match was the strong Puritan faction headed by Leicester (Arthur).

The two now set forward and meet Belphoebe, whom Spenser directly states in his prefatory note to be Queen Elizabeth. They are at first terrified. But gradually Trompart comes to his senses and begins a speech of marvelous compliment of the lady and his lord. At this point, Braggadocchio appears on the scene from

his place of hiding and tries to carry off the lady by main force, but is frustrated by her darts. The similarity in this scene to the strange courtship by Simier of Elizabeth for his master, and the reception of Alençon in England can readily be seen in the pages of Hume's book mentioned above.

According to current gossip, Elizabeth showed more favor to Simier than the nature of his mission warranted; and when he came on his visit, Alençon was received with an ardor that almost bordered on extravagance. These matters which might reflect on the Queen are naturally suppressed by Spenser, though we shall see later that in Braggadocchio's being elected as her knight by the Snowy Florimel, we have lightly sketched Elizabeth's specious acceptance of Alençon as a lover.[25]

In Canto iv the story turns back to Guyon whom we left marching away from the castle of Medina, Perissa and Elissa. He sees before him a youth set upon by Furor and the vile hag, Occasion. The youth is saved by Guyon though the latter is almost slain by Furor's fiery attacks. The Palmer, however, shows him a way out of the difficulty and Furor and his mother, Occasion, are bound and gagged.

This adventure of Furor I take to be a covert allusion to Sussex's long and troublesome Lord Deputyship of Ireland which lasted from 1557 to 1564, during which years he had to war against the two barbaric chieftains Shan O'Neill and Sorley Boy MacDonnell. The fighting of Furor is extremely suggestive of the lawless fighting of these two chieftains.

> "His rude assault and rugged handeling
> Straunge seemed to the Knight, that aye with foe
> In fayre defence and goodly menaging
> Of armes was wont to fight."

The description of Furor also is suggestive of the description Spenser gives of the wild Irish in his *View of the Present State of Ireland.*[26] It is a fact that, though Sussex did defeat the O'Neill and MacDonnell and reduce the realm to some kind of order, the breaking out of the Northern Rebellion in 1569 started

[25] Book IV, Canto v.
[26] Canto iv, St. 15.

them out again; and it was left to Sir Henry Sidney to complete the work. We shall see later that Pyrocles, whom I take to be the Earl of Northumberland, unloosed the bonds of both Furor and Occasion.

The young man Phaon whom Guyon released was oppressed by Furor because of his murder of his affianced bride Claribell through the machinations of his false friend Philemon. Phaon was descended from the famous Coradin. There is not enough here given to make more than a guess at the allegory. Edward de Vere, Earl of Oxford, in 1571 married Anne Cecil, the daughter of his guardian Lord Burleigh. His waywardness and extravagance coupled with a scandal, alienated him temporarily from his wife in 1575. He was in more than one of his troubles backed by Sussex.[27] Spenser had no special occasion to have much affection for him, for in 1579, while Spenser was in London, he insulted publicly Sir Philip Sidney, Spenser's literary patron, and according to current gossip, tried to have him assassinated.[28]

I am inclined to think that we meet him again in Book III under the name of Paridel, where his unbridled passions and extravagance are more clearly drawn, as well as the "antique glory of his ancestry, under a shady veil writ," according to the statement of the poet in the introductory sonnet addressed to him. Certainly the name Phaon, from the Greek φαίνω, shine, suggests his well known love of finery and magnificence.

At this point (Cantos v–vi), Pyrocles is announced by Atin (Strife), and Guyon must defend himself. My first temptation was to follow Upton and see in Pyrocles and in his lustful brother, Cymocles, the two Irish rebels, Sorley Boy MacDonnell and Shan O'Neill. They were both in a way implicated in the affairs of Mary Queen of Scots, receiving aid on her account from the Duke of Albany. The characters of the two paynim knights fit the two wild chieftains, but there are several difficulties. Neither of them was slain during the deputyship of Sussex, but during that of Sidney. Further, both Pyrocles and Cymocles were slain by Arthur when they were on the point of making

[27] See *Dictionary of Nat. Biography*, articles on Sussex and Oxford.
[28] See Fox Bourne, *Life of Sidney*, p. 181.

an end of Guyon. Leicester had no direct connection with Irish affairs, and instead of assisting, when he had the opportunity, against Shan O'Neill, he rather hampered both Sussex and Sidney.[29] Again, Cymocles is expressly stated to be a lover of Acrasia, and the wildest stretch of imagination can hardly connect the savage O'Neill with the delicate Queen of Scots.

I, therefore, have been driven to see in this the allegory of the Northern Rebellion of 1569, which Sussex subdued, but only with the aid of Leicester's brother, the Earl of Warwick.[30] Sussex, as President of the North, when the rebellion seemed imminent, was ordered to bring the Earls of Northumberland and Westmoreland to court. Northumberland at once raised the banner of rebellion; and this must be the first encounter between Guyon and Pyrocles. Pyrocles was overcome but his life was spared, and in turn he unbinds Furor and Occasion. That is, Northumberland's first offensive movements are checked by Sussex. But Atin sets off for Cymocles who had been reposing in the Bower of Bliss with Acrasia. This probably refers to Charles Neville, Earl of Westmoreland's love for the Queen of Scots.[31] Their combined forces of 15,000 were too much for Sussex who had only some 3,000 men to oppose them. At this point, because he did not move against the rebels, Sussex's loyalty was challenged by Elizabeth's council. This is symbolized by Guyon's apparent journey of pleasure with Immodest Mirth (Phaedria). The fight, too, between Guyon and Cymocles is indecisive.

While Sussex is waiting for aid from the south, adventures come to Guyon. He is tempted by Mammon and Ambition, but he declares he has no use for worldly wealth, and that he must renounce Mammon's daughter, Lady Ambition, as he is already troth plight to another. At various times, Sussex was offered heavy bribes by Spain; we know that this was done in 1574 and

[29] Fox Bourne, *Life of Sidney*, chapter iii.

[30] It is true that this rebellion is again symbolized in Book V, Canto ix. This time, however, there is another hero mentioned.

[31] The luxurious character of Charles Neville, Earl of Westmoreland, has been referred to by all editors of Spenser's works in another connection. It is but adding to the strength of this theory that he in this as well corresponds with the character of Cymocles.

1578, and it might have been done earlier as well. He also was married to Elizabeth Wriothesley, daughter of the Earl of Southampton.[32]

In Canto viii, after his return from the journey through Mammon's realm, Guyon fainted. He is, in this state of weakness, set upon by both Cymocles and Pyrocles, but Arthur fortunately appears and the brothers are killed, first Cymocles and then Pyrocles, the latter being beheaded at his own request. Sussex was saved by the arrival of troops under the Earl of Warwick and Lord Hunsdon. In the sonnet addressed to Lord Hunsdon, Spenser directly says:

> "When that tumultuous rage and fearful deene
> Of Northerne rebels ye did pacify . . .
> Live, Lord, forever in this lasting verse,
> That all posteritie thy honor may reherse."

It is not impossible to regard Lord Hunsdon or the Earl of Warwick, the brother of Leicester, as here acting in the place of Leicester in the character of Arthur, especially as Leicester was one of Elizabeth's closest advisers at this time.

Pyrocles had received from Archimago the sword of Arthur which was meant for Braggadocchio. Leicester had previously been suggested even by Elizabeth as a possible husband for Mary; and during this rebellion it was natural that his loyalty should be suspected. It is also curious that Pyrocles was beheaded by Arthur after the fight when he had been overcome. Northumberland was executed at York in 1572 for participation in the rebellion.[33]

After the death of Pyrocles, Archimago flees and for a time at least is absent from the story. When Elizabeth had put down the Northern Rebellion, there was at least the semblance of peace in the kingdom.

Guyon and Arthur together go now in Cantos ix–x to the home of Alma (Temperance), and there are refreshed after the battle.

[32] See article on Sussex in *Dict. of Nat. Biography.*

[33] It may be objected that Spenser applies the term paynim knights to these brothers. But it is possible that by paynim Spenser means not pagan but Catholic.

While there, wondrous accounts of the early British and later English Kings are shown them, the former largely taken from Holinshed and Geoffrey of Monmouth. These do not concern us here as they have no connection with the subject.

Canto xi describes the battle which Arthur and his squire waged against the passions that besieged the home of Alma (the body). In the conflict, Arthur is nearly deprived of his life by Maleger. He is saved by his squire, and then squeezes the life out of his enemy and casts him into a lake. This is no doubt a clear reference to the two occasions, at least, when Leicester's impetuous passions nearly caused his political downfall. In 1562, he surreptitiously married Amy Robsart, and when it was revealed to the Queen, Leicester was banished from court favors. The offense was repeated in 1578 when he, under almost similar circumstances, married the Countess of Essex. Leicester was also annoyed exceedingly by political tracts which vilified him, and especially by the tract usually called *Leicester's Commonwealth,* supposed to have been written by the Jesuit Parsons. Sidney took up the defense of his uncle in print, and this may be the aid received from his squire mentioned in the poem.[84]

If, however, to be fairly consistent in these characters we wish to regard Timias as Raleigh, then it refers to some unknown aid Leicester received from Raleigh during those times. Raleigh had, at least before 1581, attached himself to Leicester, for on the 25th of August of that year he writes to him:—"I may not forgett continually to put your Honour in mind of my affection unto your Lordshipe . . . I wilbe found ready, and dare do as miche in your service as any man you may commande."[85]

The capture of Acrasia (Canto xii) is of course the putting an end to the power of Mary, Queen of Scots, to damage England and Elizabeth. Mary was confined first at Bolton in Yorkshire, then in the strong castle of Tutbury, and then later at Fotheringay. Sussex was directly responsible for the first change in the place of her imprisonment. From a guest under careful surveillance,

[84] See Fox Bourne, *Life of Sidney,* p. 274–75.
[85] See Hume, *Sir Walter Ralegh,* p. 27.

at Carlisle, she became a political prisoner in rigorous confinement at Tutbury.

The young man, Verdant, taken with Acrasia, is undoubtedly the Duke of Norfolk, Thomas Howard.

> "The young man, sleeping by her, seemed to be
> Some goodly swayne of honorable place.
> . . . . . .
> His warlike arms, the ydle instruments
> Of sleeping praise, were hong upon a tree;
> And his brave shield, full of old moniments."

Norfolk plotted to marry the Queen of Scots, but the failure of the Northern Rebellion and the discovery of the Ridolfi Conspiracy, 1571, sealed his fate. According to the story, however, Guyon does not bind him but sends him off to the Faerie Queene. Sussex did not favor the execution of Norfolk, but pleaded for his life. And it was only with the greatest reluctance that Norfolk was given over by the Queen to the block.

Book III. *The Legend of Britomart of Chastity.*

I take this book to be the allegory of Elizabeth's Courtships. For a detailed account of these, the reader is referred to Martin Hume's excellent book, *The Courtships of Queen Elizabeth.* Spenser in the Introduction to Book III expressly states that the Queen will be able in this book "In mirrours more than one herself to see."

Taking this literally, it seems reasonable to regard many of the heroines of this book as Elizabeth under her several characteristics: Britomart, the military; Belphoebe, the pastoral; Florimel, the romantic; Amoret, the loving and faithful. It will be further noticed that at no time do these various allegories of Queen Elizabeth come into conflict as the stories are told, except when Amoret, the loving and faithful, is saved from the vile magician, Busyrane, by the military power of Britomart. Elizabeth, as we have seen, was early in her career courted by Philip II of Spain, and refused his attentions. The rebuff was a dangerous one to

England, and it was only Elizabeth's military power that saved England from annihilation.[36]

But to proceed to the detailed study of each canto:—

In Canto i Arthur (Leicester) and Guyon (Sussex, as before) as they travel together meet Britomart. Guyon, apparently without reason, tries a fall with the stranger knight and is overthrown. But he bore himself so well "that mischievous mischance his life and limbs did spare."

We have seen before, in Book II, that at the beginning of her reign, Sussex' loyalty to Elizabeth was suspected as he had been an active partisan of Queen Mary I. But it did not take him long to rehabilitate himself and to make himself one of the most trusted of Elizabeth's advisers. There are also other events in his life that caused a slight disagreement between him and the Queen. In 1566 he had obstructed the Leicester marriage project, and had advocated warmly the proposal to marry the Queen to the Archduke Charles; and in 1571, he had been a warm supporter of the Alençon marriage treaty. Both these offenses had won him not a little disfavor on account of his officiousness, as Elizabeth had styled it.

Upton's comment on this passage is interesting. He regards Guyon as the Earl of Essex, and this conflict with Britomart as one of Essex's quarrels with the Queen. This I have already shown to be improbable.[37]

At this point, the three companions behold Florimel rushing by pursued by a hideous forester. The forester is probably the Irish rebels who gave Elizabeth so much trouble; and Florimel, Elizabeth as we shall see. Guyon and Arthur both set off in chase of Florimel hoping "to win thereby most goodly meede, the fairest dame alive." Certainly Elizabeth was to the courtier poet, Spenser, the only one entitled to this praise. Britomart, however, is unmoved by the distress of a mere woman, and after waiting for a while for the knights to rejoin her, goes off on her own quest. Timias, more thoughtful than either Guyon or Arthur, pursues

[36] Under Canto xii will be found another possible explanation of this incident.

[37] *Vide supra*, p. 170.

the cause of the trouble, the forester. Thus we have portrayed Leicester and Sussex, each a candidate for the fair Florimel's rescue, and Raleigh in pursuit of the wild Irish rebels.

Britomart, in the meanwhile, follows her own adventure. She comes to the Castle Joyous where six knights are jointly attacking one knight, the Knight of the Red Cross, England, to force him to give up his love. The castle is named after that of Lancelot, which was situated in France; and it is not amiss to regard this as the allegory of the war which Sir John Norris waged in France against the League, which was founded to bring the whole of France back to the Catholic Church, and later to force England to give over its Protestant religion. Britomart, Elizabeth, however, brings such valuable aid to the Red-Cross Knight that the six submit, and she is declared the winner of the person of the Mistress of the Castle, Malecasta, the Lady of Delight.

The picture of the castle and its inmates reminds us very strongly of the court of France during the time of Catherine de'Medici and Margaret of Navarre. And in this home of the enemy, Britomart finds a wooer. Malecasta by secret and by open signs shows her love for the victorious Britoness, and when repulsed is restrained only by the martial bearing of the two knights. Queen Catherine was always eager for an alliance with England. Over and over again, envoys were sent to negotiate an offensive and defensive alliance. The Queen offered to Elizabeth, one after another, her three sons, Charles, Anjou and Alençon.

In Canto ii Britomart discovers to the Red-Cross Knight her desire to meet Sir Arthegall. She learns that he is one of the most powerful of the knights of Maidenhead, and that he "restless walketh all the world around."

Arthegall has long been identified with Arthur, Lord Grey of Wilton. Lord Grey was one of the most constantly employed men of his time. In his youth, he had served with his father in Calais, later had aided in the suppression of the Northern Rebellion, and in 1580–82, had been Lord Deputy in Ireland. The coat of arms given to Arthegall, a crowned ermelin, suggests by its color (gray) his name. Lord Grey had been one of Spenser's

patrons and hence we have this glorification of a man who really possessed very little extraordinary genius.

In Canto iii, the chronicle of British and English kings is resumed from Book II, Canto x, St. 68. Queen Elizabeth, her victory over the Armada, and her aid to the Dutch, are clearly alluded to in Stanza 49.

In Canto iv Britomart now pursues her journey until she arrives at the Rich Strand where she meets Marinell who suffers no one to go that way unchallenged. Marinell is the son of Dumarin and the nymph Cymoent, and had been raised in a rocky cave as one forlorne. His coat of arms bore three squared scutcheons. At her prayer, his grandfather, Nereus, had endowed him with all riches from the East and West. His mother had often been fearful

> "Lest his too haughtie hardiness might rear
> Some hard mischief."

She had learned from Proteus that some great disaster would overtake him at the hands of a woman,

> "For of a woman he should have much ill,
> A Virgin, straunge and stout him should dismay or kill."

But notwithstanding her warnings, he is overthrown by Britomart. There can be no doubt that there is some historical allusion here. According to Upton, Marinell stands for Lord Howard of Effingham, Lord High Admiral of England. But there is nothing in his life that can correspond with these adventures. I am much more inclined to regard Marinell as Sir Walter Raleigh who has already appeared as Timias. We must remember that Florimel is represented as being in love with Marinell. About the time this part of the poem was written, Raleigh was at the height of his court favor. He had already shown his remarkable ability as a soldier and sailor, in Ireland, on the Spanish Main, and in Spanish waters. His arms contained like those of Marinell, squared scutcheons. His uncle, Hawkins, had long ago earned a lasting place among British navigators, and almost all of his Devonshire friends were soldiers or sailors. He had been raised among exceedingly hard surroundings, and had made his way against

great odds. His conflict with Britomart would correspond with the episode mentioned in the beginning of the *Colin Clout's Come Home Again,* which forced him to retire to his Irish estates, 1588–9. Then Raleigh's imperiousness of temper corresponds exactly with Marinell's. Raleigh was brusque even to rudeness even with his superiors; and it was this that raised him as much as anything else in the eyes of Elizabeth. Finally, the name Marinell is almost an anagram of Raleigh as it was then pronounced.

It was appropriate to drop the story thus in the third book, with Marinell wounded and Florimel separated from him, for Spenser could not forsee Raleigh's subsequent rise in popularity with the Queen. The story of the union of Florimel and Marinell is postponed until Book IV, Canto xi, but there the allegory is altered slightly.

In the meanwhile Arthur pursues the flying Florimel as Leicester pursues his suit of the Queen. Night comes down and he is forced to give over the quest.

> "But gentle Sleepe envyde him any rest;
> Instead thereof sad sorrow and disdaine
> Of his hard hap did vexe his noble brest,
> And thousand fancies bett his ydle brayne
> With their light wings, the sights of semblants vaine:
> Oft did he wish that Lady faire mote bee
> His Faery Queene, for whom he did complaine;
> Or that his Faery Queene were such as shee:
> And ever hasty Night be blamed bitterlie:"

In Canto v, after a long search, he meets her dwarf, Dony, who reports who she is. She is "*royally clad,*" and "a fayrer wight did never sunne behold." She is "the bountiest virgin and most debonaire." She loves Marinell, but he is too much taken up with his knightly duties to pay court to any lady. At this time Raleigh was busy in Ireland. Undoubtedly this was written after the Earl of Leicester had died, and when Raleigh had climbed into the place of favor formerly occupied by the Earl.

The story now turns to the adventures of Timias, who gives us another view of Spenser's patron, Sir Walter Raleigh. The

forester summons his two brothers, and they meet at a ford, and there lie in wait to murder the youth.

> "Within that wood there was a covert glade,
> Foreny a narrow foord, to them well knowne,
> Through which it was uneath for wight to wade;
> And now by fortune it was overflowne:
> By that same way they knew that Squyre unknowne
> Mote algates passe; forthy themselves they set
> There in await with thicke woods overgrowne,
> And all the while their malice they did whet
> With cruell threats his passage through the ford to let.
>
> It fortuned, as they devized had,
> The gentle Squyre came ryding that same way,
> Unweeting of their wile and treason bad,
> And through the ford to passen did assay;
> But that fierce foster, which late fled away,
> Stoutly foorth stepping on the further shore,
> Him boldy bad his passage there to stay,
> Till he had made amends, and full restore
> For all the damage which he had him doen afore."

Such adventures were by no means uncommon with Raleigh. I take the following from Martin Hume's *Life of Ralegh.*[38]

"On one occasion he rode to Dublin to urge Lord Grey and his council to allow him to capture David, Lord Barry of Barrycourt, whose loyalty was more than doubtful. He was given a free hand; but spies were everywhere, and Barry was fully informed of Ralegh's project. To anticipate the action of the English, he burnt his own castle and wasted his lands, and one of Desmond's vassals, Fitz-Edmond, lay in ambush for Captain Ralegh at a ford he had to cross between Youghal and Cork. Ralegh's escort was a small one, only six men, most of whom had straggled when the ford was reached. Ralegh suddenly found himself face to face in a dangerous place with a relatively large force of horse and foot. Almost alone, he literally cut his way through to the opposite bank of the river, accompanied by another young Devonian named Moyle. In crossing the river, the latter twice foundered in deep water, and twice his life was rescued by Ralegh at

[38] P. 28.

the risk of his own. Then Ralegh, standing with a pistol in one hand and his iron-shod quarter-staff in the other, withstood the rebel force until his straggling escort had crossed the stream."

Such acts could not fail to reach the ears of the Queen; and Raleigh was rapidly advanced in the royal favor. In the story, Timias was severely wounded and nursed back to life by Belphoebe. In this connection there is a curious mention of tobacco as one of the remedies that Belphoebe may have applied to the wounded squire (St. 32). Raleigh introduced the weed to the western world in 1584. Instantly his heart is fired with love for his benefactress. So in the poem we have Raleigh probably pictured in two roles, the conquering Marinell and the lovelorn Timias—roles that were singularly appropriate for the haughty court favorite.

In Canto vi the poet now proceeds to give the birth and ancestry of Belphoebe and her twin sister Amoret. They are the daughters of Chrysogone, and raised by Diana and Venus, respectively. Some commentators, Upton in particular, have tried to identify Mary, Queen of Scots, with Amoret. But it would have been impossible for the puritan Spenser to celebrate as a heroine of chastity, Mary the paramour of Bothwell and, as was then thought, the murderess of Darnley. Further, it would be hard to identify the cruel magician Busyrane who wished to win Amoret's love by fair or foul means with any of the servants of Queen Elizabeth who kept Mary in captivity.

I am much more inclined to regard Amoret as another picture of the Virgin Queen, kept from the object of her love, Sir Scudamour (Essex) by the machinations of the old court intriguer, Lord Burleigh. Amoret represents Elizabeth as the faithful lover, as Belphoebe represents her as the dauntless huntress. The allegory of Amoret and Sir Scudamour will be taken up in its place. It is enough here to call attention to the martial daring and romantic nature of Robert Devereaux, well symbolized by the name Scudamour (shield of love).

In Cantos vii–viii the story now turns to the adventures of Florimel whom we left flying from Arthur. Upton sees in Florimel the character of Mary, Queen of Scots. I shall copy

two of his notes entire. Florimel "is pursued by Prince Arthur, who, in the historical allusion, is the Earl of Leicester, and who was talked of, and that too, by Queen Elizabeth's consent, as the intended husband of the Queen of Scots. But what persecutions does she undergo in this canto? I don't say that the monster pursuing her, 'with thousand spots of colours quaint elected,' typifies the motley dress of the Queen of Scots' subjects; whom to avoid she hastens to the seas, 'for in the seas to drown herself she fared,' rather than to be caught of that *Motley Crew,* her false tyrannical courtiers and subjects now pursuing her: she leaps therefore into a boat, 'so safety found at sea, which she found not at land.'

"'The Queen of Scots having escaped out of prison, and levied a hasty army, which was easily defeated, she was so terrified, that she rode that day above sixty miles; and then rather chose to commit herself to the miseries of the sea, than to the false fidelity of her people:'" (from Camden, p. 118). There she was oppressed first by the fisherman and later by Proteus who imprisoned her and sought her love. Upton remarks "Tis said that the Queen of Scots, when flung into prison, was committed to the care of the Earl of Shrewsbury, and was hardly dealt with by him, because she hearkened not to his solicitations."

In the first place, it is hardly necessary to remark that the Queen was not misused by Shrewsbury, and if she had been, it would have been highly improper for Spenser the court poet to have slandered the noble earl. The chief difficulty with this view is that it makes a heroine of Mary, a person who was utterly odious in the sight of the puritan poet, a character, too, whom he has shown up in the blackest possible colors in the character of Duessa and Acrasia.[89]

The adventures of Florimel are in brief as follows: she escapes from Arthur; spends the night in a witch's hut where the son, a lazy good-for-nothing boy, falls in love with her; she escapes soon after, but the witch sends after her a dreadful monster; to save her life, she leaps into a boat, only to be assailed by the old fisherman, master of the boat; and is at last rescued by Proteus

[89] See Book V, Canto ix.

who confines her in a dark dungeon to force her love. All through, it is Florimel's chastity which is celebrated, a characteristic which Mary's most enthusiastic admirers can hardly claim for her.

If we regard Florimel as the Virgin Queen, Elizabeth, all serious difficulties disappear. The witch is Catherine de'Medici, and her character fits the common English opinion of the French Queen Mother's. The son "a lazy loord, for nothing good to donne" (good-for-nothing) courted her

> "With soft sighs and lovely semblances.
> He weened that his affections entire
> She should aread; many resemblances
> To her he made, and many kind remembrances."

This is a fairly accurate picture of Alençon's desperate courtship which lasted about ten years.[40] When Elizabeth extricated herself from the French match, she not only incurred the enmity of Catherine and the French, but calumny, the monster, was busy whispering that her treatment of Alençon had not all of it been inspired by maiden prudence. If we read the letters that passed between them, we suspect that this whisper was not all without foundation.

The adventure with the fisherman seems the allegory of an earlier love affair with Lord Thomas Seymour, the brother of the Protector Somerset, and the man who married Catherine Parr, the last wife of Henry VIII. He was Lord High Admiral of England, and, among other misdeeds, for his violent courtship of young Princess Elizabeth, he was executed. This affair detracts greatly from the credit of Lord Thomas, for Elizabeth at that time was a young girl only fourteen years of age. The treatment which Florimel was subjected to by the old fisherman suggests very vividly that of Elizabeth by Seymour, as it is recounted by Hume in his *Courtships of Queen Elizabeth*.[41]

But Elizabeth was too important a person to be permitted to be made a toy of, even a political toy, and King Philip, husband of

[40] See Hume, *Courtships of Queen Elizabeth.*
[41] *Ibid.*, chapter i.

Mary, took her under his protection. The fact is, and Elizabeth afterward acknowledged it, that he saved her life at this very juncture. In all the proceedings and examination of witnesses, not a word of a treasonable nature could be brought out against her. Proteus saved Florimel's life and honor, Philip saved Elizabeth's. The old fisherman was cast into the sea, Seymour was beheaded. But, and here the allegory grows stronger, when Mary died, Philip directly proposed marriage to Elizabeth; and when he was courteously refused, he began his consistent policy of reducing her pride by a series of reprisals and underhand oppressions. Proteus imprisoned Florimel in order to break her will. There we leave her until Marinell hears her moans, compells her release, and marries her. Raleigh, as much as anyone, by his statemanship and prowess was responsible for the final overthrow of Philip's gigantic schemes.[42]

After Florimel's escape from the Beast, Satyrane appears and after a conflict binds the Beast with her girdle. If again the Beast is the wrath of France and of the League, the allegory is plain. William of Orange was able to check it in Flanders and Holland. English aid, however, was required to carry this out. It will be remembered that Alençon became Governor of the Netherlands, and playing the traitor gave over some of the cities to his soldiers to sack. They were unable to do this because of the vigilance of Orange.

At this point, Satyrane attempts to save the Squire of Dames from the vile Argante, the wife and sister of the vile Ollyphant, but is captured himself. He is saved by Palladine, a female knight, coming to his rescue. Just to what event this refers I am unable to discover. After the capture of Antwerp in 1585, the English came to the aid of the Dutch. It may refer to this.

[42] The cave of Proteus is described as a most lonesome cavern. So was the palace of the Escurial. There he

> "Offered faire guiftes t'allure her sight,
> And with flattering words he sweetly wood her."

This attempted bribery is exactly in line with Philip's actions. This part of the poem was probably written in 1589 when there were fears of a second Armada. England had not yet learned to despise Philip's power.

In Canto viii the story now turns back to the witch's son who mourns the loss of Florimel. To quiet the boy, his mother makes for him a snowy Florimel, an exact copy of the escaped original. Her hair is of gold wire.

> "Yet golden wyre was not so yellow thryse
> As Florimel's fayre heare."

Elizabeth prided herself upon her golden (red) hair. The young man is completely taken in, and joys in his love; and the snowy lady seems to reciprocate his tenderness. "Him long she so with shadowes entertained." This is exactly what Elizabeth did with Alençon. Long after she had seen that marriage to him was impossible, she kept him at her feet by false shows of affection. The false Florimel then seems to be Elizabeth drawn into trifling courtships for political reasons.

And now as if to mystify us, Spenser brings Braggadocchio and Trompart upon the scene, who seize upon the snowy lady and bear her away. That is, he makes Alençon come in another character and seize upon the empty prize.[43]

But for the present, Braggadocchio may not keep his prize. Another claimant appears who forcibly seizes and carries her away. He is a much more knightly person, and we feel a breath of pity that it is only a shadow that he has secured. I take it that Sir Ferraugh, this knight, is the Archduke Charles of Austria, who played hide and seek with Elizabeth and Alençon in the seventies, to the utter disconcerting of all Englishmen. At any rate, the story is beautifully complicated, as were all of Elizabeth's political love affairs.

We leave these characters and turn to Satyrane who mourns Florimel as dead after he had picked up her girdle and had bound the Beast. He now meets Sir Paridell, who is out seeking Florimel, and who informs him that the chief news in Fairy Land is "the *late* ruin of proud Marinell" (the enforced retirement of the proud Raleigh to Ireland in 1589) and "the sudden parture of faire Florimell." Paridell seems to have more than one role. In

[43] It is possible to regard the witch's son as the Duke of Anjou, afterward Henry III, who was for political reasons, also a candidate for the hand of Elizabeth.

Book V, Canto ix, he seems to be Westmoreland or some other person connected with the Northern Rebellion, but here he is a noble knight with but one blemish; he is too free in his loves.

In Cantos ix–x Paridell and Satyrane come to the castle of Malbecco, a miserly, jealous old curmudgeon, who refuses them admittance. While they are debating what to do, Britomart rides up and demands admittance. Paridell not liking her imperiousness, and not knowing her sex, jousts with her and is promptly overthrown. They are however reconciled by Satyrane, and after a show of force, all are admitted to the castle. During the evening, Paridell wins the love of Hellenore, Malbecco's beautiful wife, and before many days runs away with her and a large part of her husband's wealth. Soon, however, he tires of her and leaves her with the satyrs, where she is found by her husband. During the search for his wife, Malbecco is further duped and plundered by Braggadocchio and Trompart; and disgraced and impoverished, he attempts self-destruction, only to fail in that, and becomes the symbol of *jealousy*.

There is some very interesting historical allusion here. I take Paridell for another view of Edward de Vere, Earl of Oxford. In the sonnet addressed to him, Spenser says that in the poem will be found his famous name and ancestry. Paridell declares his name and ancestors to Britomart in Canto ix, St. 36–37. The ancestor Paris, suggests French extraction, and the de Veres were almost the only noble family that could trace their line unbroken to the French of the 12th Century.[44] Oxford was a poet. Paridell is called "the learned lover."

> "And otherwhyles with amorous delights
> And pleasing toyes he would her entertaine;
> Now singing sweetly to surprize her sprights,
> Now making layes of love and lovers paine,
> Bransles, ballads, virelayes, and verses vaine;
> Oft purposes, oft riddles, he devysd,
> And thousands like which flowed in his braine,
> With which he fed her fancy, and entysd
> To take to his new love, and leave her old despysd."

[44] For the story of the life of the Earl of Oxford referred to here see Hume, *Great Lord Burleigh*.

The young earl was the ward of Burleigh and early became a court favorite. He was always wayward and extravagant. On several occasions he came into conflict with the Queen. In 1571 he objected to the execution of Norfolk. To break away from Court in 1574, he escaped to Flanders to attach himself to Orange (Satyrane). Elizabeth was furious at his contempt and had him sent back at once (the quarrel before the castle of Malbecco when Paridell was overthrown). After a return from Italy he aped foreign manners and dress (Paridell's elegance). In 1571 he suddenly married Anne Cecil, Burleigh's daughter (Malbecco's wife), and his extravagance was a perpetual drain on his father-in-law's purse. When he found that Burleigh would no longer pay his bills, he deserted his wife (abandonment of Hellenore).

There are also some traces of similarity between Burleigh and Malbecco. Burleigh was in his later years extremely jealous of younger men, especially of Essex. See *Colin Clout's Come Home Again.* Here he is described as follows:

> "Therein a cancred crabbed carle does dwell,
> That has no skill of court nor courtesie,
> Ne cares what men say of him ill or well:
> For all his dayes he drownes in privitie,
> Yet has full large to live and spend at libertie.
>
> But all his mind is set on mucky pelfe,
> To hoord up heapes of evill-gotten masse,
> For which he others wrongs, and wreckes himselfe:"

Burleigh's love of money was notorious. Spenser, too, had no love for Burleigh, as, according to the story, Burleigh was directly responsible for Spenser's want of preferment.

There are several other points well worthy of attention. Satyrane and Paridell wanted assistance from Malbecco which he begrudged. Orange, with Oxford and other young English hotheads, was anxious for Burleigh to espouse a war against Philip, to save Holland. Burleigh was for counting the cost, and preferred a diplomatic peace with Spain.[45] Oxford took advantage of his nearness to Anne Cecil to arrange what would be a

[45] This is clearly brought out in Martin Hume's *Great Lord Burleigh.*

good financial match. Braggadocchio and Trompart duped Malbecco into trusting them and then robbed him. Burleigh was in a similar way duped by the Alençon marriage treaty, not once but repeatedly. At present, I have nothing better to offer in the way of an explanation of these incidents. Certainly Spenser would not wish to make the allegory too clear.

In Cantos xi–xii Satyrane and Britomart proceed together and save a young man from the giant Ollyphant. We seem to get back again to the English and Dutch operations in the Netherlands.[46] They separate and Britomart meets Sir Scudamour who is in great distress because the gentle Amoret, his mistress, is in the power of Busyrane, the wicked magician. This again presents some difficulties. For the present, I need only state that by Scudamour, I understand the Earl of Essex who was kept from winning Amoret, Elizabeth, by the wiles of Burleigh (Busyrane). Britomart does not slay Busyrane, but binds him in chains, to symbolize the destruction of Burleigh's power. The full story of Scudamour is reserved for the Fourth Book.[47] It is possible to regard Busyrane as Philip II, who early courted Elizabeth, and the magical fire as the fire of the Inquisition. It needs only to be added that Spenser may have borrowed his idea of the Masque of Cupid from a Masque of Cupid performed before the Queen at Norwich shortly after the affair at Kenilworth.

[46] The young man may be Henry of Navarre.

[47] I did once hope that it was possible to see in this adventure the marriage of Lady Penelope Devereaux to Lord Rich, that ended so unhappily for her and for her true lover Sir Philip Sidney. Another possible explanation of this incident may be seen on page 21. The satire on Lord Burleigh may seem daring, and perhaps unjust; but we must remember that Elizabeth's chief minister was Leicester's chief rival, and that Leicester was Spenser's hero.

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A NEW SPECIES OF TREMATODE FROM THE PAINTED TERRAPIN, *CHRYSEMYS MARGINATA* AGASSIZ

BY FRANKLIN D. BARKER AND GEORGE W. COVEY

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INTRODUCTION[1]

A large number of investigators have from time to time contributed to our knowledge of the parasites of turtles. Among these contributions the classical work of Looss, *Ueber neue und bekannte Trematoden aus Seeschild-Kröten,* stands out pre-eminently and will for a long time to come be the model to which other investigators will conform and which will stimulate the investigations in parasitology in all countries.

[1] It is fitting that I should state that Mr. Covey is entitled to the credit for having done the major part of the work in this investigation. The work was done under my direction and I have carefully gone over all of the data and have studied the material used in this investigation and can vouch for its accuracy. F. D. B.

As in other phases of parasitology more has been done on the parasites of turtles in Europe than in the United States and Canada. For this reason and at the suggestion of Professor Barker I began this investigation of the parasites of the painted terrapin, *Chrysemys marginata* Agassiz.

TECHNIQUE

In the fall of 1911, sixteen turtles were secured from Lake Emily, a small lake near St. Peter, Minnesota. These turtles furnished the parasitic material for this study. The alimentary tract exclusive of the esophagus, the urinary bladder, the lungs and the liver were the organs to which special attention was given, and all were found to harbor parasites with the exception of the liver. The stomach and intestine were opened from end to end and allowed to lie in normal salt solution from five to ten minutes, in which time most of the trematodes loosened their hold and fell to the bottom of the dish. The others, which were too small to be seen on the surface of the intestine, were removed by gently stripping the intestine from end to end between the thumb and forefinger. The nematodes were easily seen and removed with a pipette or small forceps. The intestines and stomachs of turtles number V, VII and IX were negative with respect to trematodes, while nematodes were invariably present in the pyloric end of the stomach or the duodenum or both.

In examining the liver, the gall-bladder was first opened and carefully inspected, but in no case contained parasites. The bile ducts were so small that they could be examined only by teasing the organ into fine pieces, thus producing a large amount of sediment which was difficult to get rid of, but no trematodes were found.

In no case did the urinary bladder contain more than one trematode which was of a large type, distinct from those found in the intestine, but resembling, superficially at least, those found in the lung. The bladders were negative except those of turtles Nos. II, III, IX, X and XIII. The lungs were all negative except those of turtle No. V, from which four trematodes were obtained.

In all ninety-three trematodes were obtained of which five were from the urinary bladder, four were from the lungs and eighty-four were from the intestine; one hundred and seventeen nematodes, all from the stomach and duodenum, were obtained. Of the eighty-four trematodes from the alimentary canal, eighty-two were of one type and the other two were of two different species, though one of these closely resembles the first type. In all, five species of trematodes were found in the turtles, and will be designated as types *A, B, C, D* and *E*. The nematodes were apparently of one type. It is of interest to note the entire absence of cestodes in these turtles.

The table on page 196 shows the class of parasite found, the organ infected and the degree of infection for each turtle.

It will be seen from the table that, with one exception, all of the turtles harbored parasites which were evenly divided between the trematodes and the nematodes. Of the trematodes, type *A* predominated, being found in twelve out of the sixteen turtles examined. The largest number of parasites found in any one turtle was twenty-three, three turtles having this number. Turtle number VI harbored the greatest number of trematodes, namely twenty-two, all of the same type.

The nematodes were killed by dousing them quickly with cold lacto-phenol solution in which they were allowed to remain indefinitely, or killed in Zenker's fluid and preserved in eighty-five per cent. (85 per cent.) alcohol. The trematodes were killed in three ways, as follows: by flattening between glass slides in Zenker's fluid, by dousing with Zenker's fluid and by dousing with lacto-phenol solution. About two thirds of them were killed by the first method, *i. e.,* flattening in Zenker's, to be used in making *toto* mounts. All the rest except one, were killed by dousing with Zenker's, to be used for making sections. One was killed in lacto-phenol solution with the purpose in mind of preserving the eggs in as nearly a normal condition as possible. Those killed in Zenker's were permitted to remain in this fluid for from twelve to twenty-four hours and were then treated with seventy per cent. (70 per cent.) iodized alcohol.

Twenty specimens were mounted *in toto*. These were stained

TABLE SHOWING DEGREE OF INFECTION

Turtle No.	Parasite	Type	No.	Organ Infected
I	Negative.			
II	Trematode.	*A*	11	Intestine.
	Trematode.	*E*	1	Bladder.
	Nematode.		4	Stomach.
III	Trematode.	*A*	14	Intestine.
	Trematode.	*E*	1	Bladder.
	Nematode.		4	Pyloric end of stomach.
	Nematode.		4	Duodenum.
IV	Trematode.	*A*	3	Duodenum.
	Nematode.		3	Duodenum.
V	Trematode.	*D*	4	Lung.
	Nematode.		2	Intestine.
VI	Trematode.	*A*	22	Intestine.
	Nematode.		1	Intestine.
VII	Nematode.		8	Intestine.
VIII	Trematode.	*A*	1	Intestine.
	Nematode.		2	Intestine.
IX	Trematode.	*E*	1	Bladder.
X	Trematode.	*A*	10	Intestine.
	Trematode.	*E*	1	Bladder.
	Nematode.		12	Intestine.
XI	Trematode.	*A*	2	Intestine.
	Nematode.		1	Intestine.
	Nematode.		8	Stomach.
XII	Trematode.	*A*	12	Intestine.
	Nematode.		11	Intestine.
XIII	Trematode.	*A*	1	Intestine.
	Trematode.	*E*	1	Bladder.
	Nematode.		10	Intestine.
XIV	Trematode.	*A*	3	Intestine.
	Trematode.	*C*	1	Intestine.
	Nematode.		6	Duodenum.
XV	Trematode.	*A*	2	Intestine.
	Nematode.		10	Duodenum.
XVI	Trematode.	*A*	1	Intestine.
	Trematode.	*B*	1	Intestine.
	Nematode.		6	Intestine.

SUMMARY OF TABLE

Number of turtles examined.....16

Parasites	Number	Organ
Trematode *A*	82	Intestine
Trematode *B*	1	Intestine
Trematode *C*	1	Intestine
Trematode *D*	4	Lung
Trematode *E*	5	Bladder
Total No. Trematodes	93	Intestine, lungs, bladder
Nematodes	92	Intestine and stomach

in three stains; some in borax-carmine, some in carmalum, and others in Delafield's haematoxylin. In staining, the regressive method of over-staining was always used, the material being left in the stain from twenty-four to forty-eight hours, then destained until well differentiated in seventy per cent. (70 per cent.) acid alcohol. In dehydrating, all specimens were permitted to remain in the higher alcohols (95 per cent. and 100 per cent.) for several hours. From one hundred per cent. (100 per cent.) alcohol they were placed in a mixture of one part absolute alcohol and one part cedar oil, in which they remained from two to four hours. They were then placed in a light clearing reagent consisting of a mixture of cedar oil and oil of bergamot for an equal length of time, then into a heavy cedar oil from twelve to twenty-four hours and mounted in thin balsam.

This procedure of changing gradually from a thin clearing to a heavy clearing reagent then to a light balsam was necessitated by a peculiar tendency on the part of these worms. At first an attempt was made to clear them in xylol but it was found that in a few hours they became perfectly opaque in the balsam. Then light oils such as bergamot and a mixture of cedar oil and oil of bergamot were tried but with the same result. I then tried placing them in half and half balsam and xylol, and permitting the xylol to evaporate, thus thickening the balsam, but this also proved a failure. Then, on trying the procedure just outlined the clearing was successful in a majority of cases, though a few have since become opaque. In experimenting thus, I observed a specimen while it was becoming opaque, and found that after

remaining in the balsam but a short time, an opaque streak appeared in the median line of the body, from the posterior end to the juncture of the middle and anterior thirds, at which point it branched into two streaks which in turn ended abruptly a little anterior to the ovary. This streak appeared instantly, as if a tube might have suddenly filled with some substance, or become emptied of some substance, having such a density or such a refractive index as compared with the balsam, as to clearly differentiate it. From this central streak there soon appeared branches radiating in all directions, and rebranching until they reached to the cuticle, and the whole worm became opaque. I decided that these streaks marked the outline of the excretory system, and later, in my study of cross, sagittal and frontal sections I corroborated this theory as will be shown in the description of the excretory system, given later.

In addition to the *toto* mounts, series of sagittal sections, series of cross-sections and series of frontal sections were made. All sections were stained in Delafield's haematoxylin.

As stated previously, three species of trematodes were found in the intestine. One of these species, when examined in a living state, showed the body to be covered with long spines but after staining and destaining in acid alcohol it was no longer possible to see these spines. The disappearance of the spines was undoubtedly due to the dissolving action of the acid alcohol. This clearly shows that the presence or absence of spines in stained and mounted specimens cannot be relied on as a differentiating character between species of trematodes.

This occurrence also emphasizes the value of the examination of specimens in a living condition or before treating them with acid reagents.

MORPHOLOGY OF *Telorchis* (*Protenes*) *leptus* N. SP.

I regret that lack of time prevented me from making a detailed study of all the parasites which were found in the turtles, but this will be done by other students in this laboratory. The trematode found in greatest numbers and designated as type *A* was studied in detail and the description of this form follows. The

description given is founded on a comparative study of thirteen mounted specimens and one live specimen.

These worms vary in length from 1.281 mm to 3.5 mm, the mode being 2.013 mm for 14.3 per cent. The width at the widest portion of the body varies between a minimum of 0.256 mm and a maximum of 0.458 mm the mode being 0.275 mm for 28.5 per cent. The widest part of the body is in the plane of the ventral sucker 0.591 mm posterior to the anterior end, or approximately at the boundary between the first and second fourths of the length of the body. From this point the outline of the body tapers toward both ends, but much more rapidly toward the posterior than toward the anterior end. The anterior end is, therefore, much more blunt and rounding than the posterior, which in some specimens is quite pointed (Plate I, fig. 8).

The cross-sections vary in form from the anterior end toward the posterior as follows: At the level of the posterior end of the esophagus the worm is very much flattened dorso-ventrally, the form of the section being a long narrow ellipse, and is arched so that the ventral surface is concave from side to side. The dimensions are 0.059 mm dorso-ventrally by 0.265 mm wide. From this point caudad to the center of the acetabulum the form changes to a more oval one, and the arch is lost, the ventral surface at this point becoming nearly as convex from side to side as the dorsal surface. Here the body is 0.118 mm dorso-ventrally by 0.236 mm wide. From the acetabulum to the ovary it becomes less and less flattened dorso-ventrally until at the ovary the dimensions are 0.189 mm by 0.264 mm. From here toward the posterior end, the first few sections again resume the long narrow elliptical form but not the arch, then they become very flat on the ventral surface and rounded on the dorsal surface giving somewhat the appearance of a semiellipse with the corners rounded. The dimensions remain very nearly the same as at the level of the posterior end of the esophagus back to the level of the testes. Here the sections become thicker dorso-ventrally but retain their flat ventral surface thus becoming nearly semi-circular in form. The dimensions at the level of the testes are 0.148 mm by 0.254 mm. Posterior to the testes the sections become less

and less flattened and continuously narrower until the posterior end is reached.

Very small spinelets are present deeply buried in the cuticula. The cuticula is raised about the base of each spinelet into a papilla-like structure, from the tip of which the spinelet projects. These papillae are arranged in regular order, in concentric circles about the oral sucker and in rows which check in all directions. They are very distinct at the anterior end, but toward the posterior end they become less and less distinct so that posterior to the middle of the body they can scarcely be discerned (Plate I, fig. 8).

The ventral sucker (Plate I, fig. 8) as previously stated is situated at the junction of the first and second fourths of the body or 0.640 mm from the anterior end, and in the mid-ventral line. It is somewhat smaller than the oral sucker. The maximum length and width is 0.106 mm, the minimum length is 0.059 mm and the minimum width is 0.079 mm. The mode for the length is 0.088 mm for 23 per cent. and the mode for the width, 0.106 mm for 23 per cent. From these dimensions it is seen that the shape of the ventral sucker varies in the different individuals, the variation depending largely, I believe, on the degree of contraction or relaxation of the animal when killed, as I have seen not only the ventral sucker, but also the oral sucker, and to a certain extent the internal organs change shape with the movements of the live animal. In eight of the fourteen examined, however, including the live specimen, the ventral sucker is circular in shape, the variations occurring in the other six. The variation in the sucker is always the same, *i. e.*, it becomes elliptical with its long axis in the transverse plane of the body of the worm (Plate I, figs. 1 and 8).

The subterminal oral sucker is slightly larger than the acetabulum and varies also in shape in the different individuals, being circular in only six out of the fourteen. The maximum measurements are: length 0.106 mm, width 0.145 mm; the minimum measurements are: length 0.059 mm, width 0.077 mm. The mode for the length is 0.106 mm for 38.4 per cent. and the mode for the width 0.106 mm for 30.9 per cent.

Posterior to the oral sucker and between it and the pharynx is

a cone-shaped structure with well-marked longitudinal muscle fibers which may be designated as a prepharynx. The small end of the cone connects with the mouth cavity and the large end with the pharynx (fig. 8).

The pharynx is highly muscular and somewhat unique in being formed of four muscular oval quadrants in place of the two bean-shaped halves which usually form the pharynx in the trematodes (fig. 8).

The maximum measurements of the pharynx are: length 0.065 mm, width 0.083 mm; the minimum: length 0.059 mm, width 0.047 mm. The mode for the length is 0.059 mm for 69.2 per cent. and the mode for the width 0.059 mm for 61.5 per cent. Following the pharynx is a short esophagus (fig. 8) having a maximum length of 0.207 mm, and a minimum length of 0.047 mm, the mode for the length being 0.089 mm for 16.7 per cent. At the end of the esophagus the digestive tract divides into two caeca which first run outward to approximately the junction of the lateral and second fourths of the width of the animal, then posteriorly and parallel with the lateral borders, thus dividing the body into a median and two lateral fields which contain certain definite organs as described later. The caeca always end posterior to the testes but at a very variable distance from the posterior end, the maximum distance being 0.236 mm, the minimum 0.077 mm and the mode being 0.118 mm and 0.236 mm for 16.7 per cent. In all but four specimens the two caeca were equal in length and in three of the four the right one was the longer (fig. 8).

The testes (fig. 8) lie in the posterior fifth of the body between the ends of the intestinal caeca, which, as stated above, always end posterior to them. The posterior testis is at a distance from the posterior end of the body varying between 0.154 mm and 0.512 mm with a mode of 0.236 mm for 16.6 per cent. They lie very close together one directly behind the other in the median line of the body. As a rule they are nearly spherical in shape, but on contraction of the body of the worm the transverse diameter may become much greater than the longitudinal diameter. In the fourteen specimens the testes of five were

approximately spherical, in three they were only slightly elongated transversely with reference to the long axis of the body, and in the remainder they were very much elongated transversely. The following are the measurements: maximum length 0.216 mm, width 0.366 mm; minimum length 0.059 mm, width 0.059 mm; mode for the length 0.118 mm, 0.106 mm and 0.089 mm for 15.3 per cent.; mode for the width 0.118 mm for 23.0 per cent.

The cirrus pouch (figs. 1 and 8) lies anterior to the acetabulum, *in no case reaching posterior to its posterior border.* Its base is always near the acetabulum, in nine of the fourteen lying over the center of it. In the other five, the base was slightly to the left of the acetabulum in one, to the right in three, and could not be distinctly seen in the fifth. From the base, the pouch extends in a twisted course cephalad and toward the left, passes ventral to the left caecum of the intestine, and ends in a genital papilla (figs. 1, 3 and 8) on the dorsal surface of the body at the level of the posterior end of the esophagus, approximately 0.045 mm from the left lateral border of the worm. The length of the cirrus pouch can only be approximated on account of its coiled course. It is about 0.413 mm long (average). The diameter of the pouch in cross-section at the base is 0.041 mm. From here it becomes gradually narrower and narrower, being 0.024 mm in diameter near the genital pore. At the base of and within the cirrus pouch is a large seminal vesicle (fig. 1). From the seminal vesicle a narrow tube, the *pars prostatica,* leads to the terminal portion or cirrus. The seminal vesicle and *pars prostatica* are surrounded by the cells of a well defined prostate gland which completely fills the basal portion of the cirrus pouch.

The ovary lies approximately at the junction of the first and second thirds of the body in the median longitudinal axis and is considerably smaller than the testes. It varies in shape from orbicular to oval and has a smooth margin. The length varies from 0.035 mm to 0.089 mm with a mode of 0.059 mm and 0.088 mm for 25 per cent.; the width varies from 0.041 mm to 0.089 mm, with a mode of 0.059 for 25 per cent.

Just posterior to the ovary, a little ventral to it, and slightly to the left of the mid-longitudinal axis, lies a rather large ovoidal

receptaculum seminis (figs. 5 and 8). Occupying the entire space between the two arms of the excretory bladder and lying posterior to the ovary and ventral to the ***receptaculum seminis*** is a glandular mass quite diffuse and without a limiting membrane. This is the shell-gland (figs. 5 and 8). Dorsal to the shell-gland and posterior to the ovary and ***receptaculum seminis*** lies the yolk reservoir, very close to the dorsal surface (figs. 5 and 8) with its two afferent or transverse vitelline ducts, one coming from either side, and its efferent duct leading to the ootype. Between the yolk reservoir and the ***receptaculum seminis*** on the left, is the proximal end of Laurer's canal (figs. 5 and 8). It extends anteriorly and to the left, and opens on the dorsal surface, generally at a point about midway between the ovary and the left caecum of the intestine, opposite the junction of the middle and posterior thirds of the ovary. In reaching this point it passes dorsal to the left branch of the excretory bladder and dorsal to the coil of the uterus.

From the ovary a short oviduct passes to the posterior and always has an enlargement about the size of an egg near its terminal end. This enlargement is possibly a ***receptaculum ovorum*** for the storage of eggs. At a point dorsal to the posterior portion of the receptaculum, between the yolk reservoir and the ovary, the oviduct joins a short duct from the ***receptaculum seminis*** and also one from the yolk reservoir. Laurer's canal also connects with these ducts at this point and the uterus begins here. This common point of meeting is surrounded by the diffuse shell-gland and constitutes the ootype.

The uterus is made up of numerous loose coils arranged in two lateral fields entirely distinct from each other except where the one joins the other just anterior to the anterior testis. These fields lie ventral and medial to the intestinal caeca, never extending over their outer borders, and ventral to the central reservoir of the excretory system. The coils pass toward the posterior on the right side, cross in front of the testes, never extending posterior to either of them, then pass cephalad on the left side. The terminal portion passes to the left of the ovary and acetabulum as

a straight tube. Just anterior to the acetabulum it turns slightly to the left and meets the cirrus pouch near its base. From this point it runs parallel and also posterior and ventral to the cirrus pouch and finally opens at the base of the genital papilla and internal to it (figs. 1, 3, 8).

The number of eggs varies from two to a very great number, being confined almost entirely to that portion of the uterus posterior to the ovary. The eggs are long ovals in shape with the opercular pole more flattened than the opposite pole. They have a well-marked operculum but are without filaments (fig. 6).

Their length varies from 0.053 mm to 0.040 mm. with a mode of 0.051 and 0.053 mm for 23 per cent.; their width varies from 0.020 mm to 0.026 mm with a mode of 0.023 mm for 53.9 per cent.

The yolk-glands are arranged in two lateral fields, outside the intestinal caeca, reaching from a point just posterior to the ovary to a point just a little anterior to the anterior testis. The right gland is always a little shorter than the left. The acini are not arranged in definite groups, but are more or less irregular. The vitelline ducts pass medially dorsal to the intestinal caeca to reach the yolk reservoir (fig. 8).

The excretory system consists of a large median reservoir, which begins slightly posterior to the ovary and extends to the anterior testis, lying between the two intestinal caeca and dorsal to the uterus. The median reservoir branches just posterior to the ovary into two tubes, one of which passes forward on either side of the ovary and both of which end just a little anterior to it. The left branch is usually a little longer than the right. From the median bladder very small lateral branches are given off, which radiate in all directions, branching and re-branching until they reach the cuticula. At the anterior testis the central bladder becomes contracted into a duct, which passes dorsal to the testes, as may be seen in both sagittal and cross-sections. Posterior to the testes it becomes again distended into a second bladder, which opens to the exterior through the excretory pore at the extreme posterior end of the body (fig. 8).

TABLE OF SPECIFIC CHARACTERS OF *Telorchis leptus* N. SP.

		Maximum	Minimum	Mode	Per Cent. Mode
Size	Length	3.500 mm	1.281 mm	2.013 mm	14.2
	Width	0.458 mm	0.256 mm	0.275 mm	28.5
Oral sucker	Length	0.106 mm	0.059 mm	0.106 mm	38.4
	Width	0.145 mm	0.077 mm	0.106 mm	30.9
Ventral sucker	Length	0.106 mm	0.059 mm	0.088 mm	23.0
	Width	0.106 mm	0.079 mm	0.106 mm	23.0
	Distance from anterior end	1.000 mm	0.275 mm	0.640 mm	25.0
Pharynx	Length	0.065 mm	0.059 mm	0.059 mm	69.2
	Width	0.083 mm	0.047 mm	0.059 mm	61.5
Pre-pharynx	Shape	Cone		Cone	100.00
Esophagus	Length	0.207 mm	0.047 mm	0.089 mm	16.7
Intestinal caeca	Distance from posterior end	0.236 mm	0.077 mm	0.236 mm 0.118 mm	16.7
Caeca	Comparative length	right longer	left longer	equal	66.6
Cirrus pouch	Position of base	over center of acetabulum	to the left of acetabulum	over center of acetabulum	69.2
				0.413 mm	
	(Approx.) length	0.457 mm	0.354 mm	0.421 mm	23.0
Ovary	Length	0.089 mm	0.035 mm	0.059 mm 0.088 mm	25.0
	Width	0.089 mm	0.041 mm	0.059 mm	25.0
	Position	in first third of body	in second third of body	at junction of 1st and 2d thirds	88.8

		Maximum	Minimum	Mode	Per Cent. Mode
Testes					
	Length	0.216 mm	0.059 mm	0.118 mm 0.106 mm 0.089 mm	15.3
	Width	0.366 mm	0.059 mm	0.118 mm	23.0
	Shape	spherical	oval	spherical; elongated transversely	41.6
	Distance of post. testes from post. end	0.512 mm	0.154 mm	0.236 mm	16.6
Eggs	Length	0.053 mm	0.040 mm	0.051 mm 0.053 mm	23.0
	Width	0.026 mm	0.020 mm	0.023 mm	53.9
Uterus	In two lateral areas which do not cross. Descends on right side, crosses anterior to testes, and ascends on left side.				100.0
Vagina	Passes to left of ovary and acetabulum, to left and ventral, and parallel to cirrus pouch, and opens at the base of the genital papilla.				100.0
Gen. pore	Far removed to left, on level with posterior end of esophagus, on dorsal surface of body, very near to left margin of body.				100.0
Yolk glands	Position and extent	Lateral, from ovary to anterior testis.			100.0
Excretory canal	Y-shaped vesicle. Branches just posterior to ovary. Passes dorsal to testes.				100.0
Shape of body	Widest at plane of acetabulum, tapers both ways. Posterior end pointed. Anterior end rounded. Body flat.				59.0
Spines	Present. Arranged concentrically about oral sucker. Become fewer toward post. end. Not seen post. to level of ovary.				100.0

CLASSIFICATION

Lühe (1899: 524) has described a genus of trematodes which he calls *Telorchis* with reference to the position of the testes which are situated in the extreme posterior end of the body and separated from the ovary by a great distance, using as a type-species *Telorchis clava* Dies. The following is his description in part:

"Aehnliche Lagerungsverhältnisse der Genitalorgane finden sich unter den bisher beschriebenen Distomen bei *Dist. Poirieri* Stoss. (=*Dist. gelatinosum* Poirier nec Rud.), *Dist. Linstowi* Stoss. (=*Monostomum aculeatum* Linst.), *Dist. Ercolanii* Montic. (=*Dist. signatum* Ercol. nec Duj.), *Dist. nematoides* Mühl., sämmtlich aus Reptilien. Alle diesen Arten stimmen darin überein, dass die beiden Hoden median hinter einander am Hinterende des Thieres liegen, der Cirrusbeutel sich durch ein auffällige Länge auszeichnet und vor dem Bauchsaugnapf, etwas nach links verschoben, ausmündet, dass ferner das Ovarium unmittelbar hinter dem Hinterende des Cirrusbeutels liegt, von den Hoden durch die Hauptmasse des stark entwickelten Uterus getrennt, während die Dotterstöcke mit ihren zahlreichen Follikeln die Seiten des Körpers erfüllen, sich dem Vorder- und Hinterende des Thieres mehr oder weniger weit nährend. Aller Arten besitzen ferner bis an's Hinterende ziehende Darmschenkel und sind (mit Ausnahme von *Dist. Poirieri*) am Vorderkörper bestachelt; so weit Angaben über das Excretionsgefäszsystem vorliegen, zeichnet sich die Excretionsblase durch ihre langgestreckte Gestalt aus; in Folge der Gabelung am Vorderende erscheint sie einem Y vergleichbar. In der Regel ist auch der Mundsaugnapf etwas grösser als der Bauchsaugnapf, nur bei *Dist. Ercolanii* Montic. sollen beide ungefähr gleich gross sein. Diese weitgehende Übereinstimmung berechtigt uns dazu, die genannten Distomen in einer besonderen Gruppe von Gattungswerth zu vereinigen, für welche ich mit Rücksicht auf die Lage der Hoden den Namen *Telorchis* vorschlage. Als typische Art der neuen Gattung sehe ich *Telorchis clava* (Dies.) an.

"In diese Gattung gehören auszer den schon genannten Arten noch *Dist. bifurcum* Braun und *pleroticum* Braun. . . ."

Looss (1899: 566) also describes the genus *Telorchis* as follows:

"Körper in die Länge gestreckt und nach vorn mehr oder minder stark verjüngt; Haut mit Stacheln bewaffnet oder glatt (?). Darm mit Pharynx, kurzem Oesophagus und bis ins Hinterende reichenden Schenkeln. Excretionsblase? Genitalöffnung vor dem Bauchsaugnapf, Begattungsorgane vorhanden, stark in die Länge gestreckt und weit nach hinten reichend. Hoden im Körperende hinter einander, Keimstock weit von ihnen

entfernt, etwas seitlich, in der Nähe des Endes des Cirrusbeutels gelegen. Laurer'scher Canal vorhanden, Receptaculum seminis? Dotterstöcke mässig entwickelt, ausserhalb der Darmschenkel. Uterusschlingen die Darmschenkel nach aussen nicht überschreitend, und von dem vordern Hoden bis ungefähr zur Mitte des Cirrusbeutels reichend; mässig dicht. Eier in der Länge um 0.03 mm., in der Breite um 0.018 mm. schwankend.

"Zum Typus dieser Gattung ernenne ich *Telorchis linstowi* Stossich. Die meines Wissens erste und gute Abbildung einer hierher gehörigen Form ist von Monticelli gegeben worden (*Distomum ercolanii* Montic.), und deshalb hätte eigentlich diese Art das erste Anrecht darauf, als Typus bezeichnet zu werden. Indessen bin ich nicht ganz sicher, ob *Dist. ercolanii* Mont. nicht vielleicht mit *Dist. linstowi* Stoss. identisch ist. . . .

"Zu dem Genus *Telorchis* dürften ferner zu rechnen sein: *D. poirieri* Stoss. (wenn es sich als selbständige Form erweist), *D. nematoides* Mühling und die Art, die Molin und Stossich als *Dist. arrectum* Dujardin beschreiben. . . . "

Braun (1901: 13), in summarizing the descriptions of Lühe and Looss, says:

"Luhe's Arbeit ging von dem kaum mehr als dem Namen nach bekannten *Dist. clava* Dies. (1850) aus, das den Darm von *Eunectes scytale* bewohnt; es wurde festgestellt, dass die in der Mittellinie liegenden Geschlechtsdrüsen derart angeordnet sind, dass der Keimstock weit vorn, dicht hinter dem Bauchsaugnapf, und die Hoden ganz hinten und zwar hintereinander gelegen sind, sowie dass zwischen Keimstock und den Hoden der ganze Uterus sich einschiebt. Wegen der endständigen Lage der Hoden erhielt die Gattung ihren Namen; ihr Typus wurde *Dist. clava* Dies. Weitere Angehörige seien *Dist. Poirieri* Stoss. (= *Dist. gelatinosum* Poir. nec Rud.), *D. Linstowi* Stoss. (= *Monostomum aculeatum* Linst.), *D. Ercolanii* Montic. (= *D. signatum* Ercol. nec Duj.), *D. nematoides* Mühl. und zwei neue von mir beschriebene Arten: *Dist. bifurcum* und *D. pleroticum;* möglicherweise gehört auch noch *Dist. arrectum* Mol. (nec Duj.) zu derselben auf Reptilien beschränkten Gattung.

"Looss basiert dagegen *Telorchis* auf *Dist. Linstowi* Stoss. (= *Monst. aculeatum* v. Linstow.) und rechnet zu ihr dieselben Arten wie Lühe, von *D. bifurcum* und *D. pleroticum* abgesehen, von deren Existenz Looss nichts wissen konnte. Beide Autoren hegen übrigens über die Berechtigung einiger Arten Zweifel; für Lühe is *Dist. nematoides* Mühl. möglicherweise, für Looss zweifellos identisch mit *D. Ercolanii* Mont. und dieses wieder fällt nach Looss vielleicht mit *D. Linstowi* Stoss. zusammen, möglicherweise hiermit auch *D. Poirieri* Stoss."

From the description previously given of the trematode found

in the painted terrapin it will be seen that it conforms to Lühe's genus *Telorchis* in the following points: both testes lie, one behind the other, in the median line, at the posterior end of the body; the cirrus pouch is long and has its opening anterior to the ventral sucker and removed more or less to the left; the ovary lies in the same relative position in the body; the ovary is separated from the testes by the mass of greatly coiled uterus, all of which lies in this position, in no case extending posterior to the anterior testis; the yolk-glands with their many follicles fill the sides of the body "sich dem Vorder- und Hinterende des Thieres mehr oder weniger weit nähernd"; it possesses intestinal caeca which reach to the posterior end; the excretory system forks just posterior to the ovary, thus becoming Y-shaped; and the acetabulum is slightly smaller than the oral sucker.

Looss describes the genus *Telorchis* as being either armed or unarmed ("Haut mit Stacheln bewaffnet oder glatt (?)") and he also describes the cirrus pouch as extending posterior to the acetabulum as far as the ovary. He mentions, in addition, the presence of the following organs: a pharynx, short esophagus, Laurer's canal, and a *receptaculum seminis*. All of these organs are present in my specimens. From this comparative study it is evident that the trematode which I have described conforms to the descriptions of both Lühe and Looss of the genus *Telorchis* and should be placed in that genus.

There is however one marked and important variation, in the form which I have described, from the descriptions of the genus *Telorchis* as given both by Lühe and Looss. This is the position of the cirrus pouch which in my specimens never extends posterior to the acetabulum and consequently also the position of the genital pore which is on the dorsal surface, far anterior and to the extreme left of the acetabulum.

These differences will be considered more fully a little later in the discussion.

Lühe (1899: 529) in his description of *T. clava*, says:

"Die grösste anatomische Differenz, welche sich innerhalb der Gattung findet, betrifft den Oesophagus, welcher bei *T. clava* (Dies.) vollständig fehlt, bei *T. nematoides* (Mühl.) dagegen sogar recht lang ist. Diese

Differenz dürfte in Zusammenhang stehen mit der gedrungenen Körperform von *T. clava,* kann jedoch gegen die Einheitlichkeit des Genus ebensowenig geltend gemacht werden, wie etwa die verschiedene Lage des Excretionsporus innerhalb der Gattung *Opisthorchis.*"

Again Lühe (1900: 566) says:

"Schon bei meiner vorläufigen Beschreibung der Art [*T. clava*] habe ich darauf hingewiesen, dass dieselbe sich von den übrigen *Telorchis*-arten etwas unterscheide. Sie ist gedrungener gebaut und wohl im Zusammenhange damit steht das Fehlen des Oesophagus. Noch weniger Wert wie auf diesen Unterschied glaubte ich darauf legen zu dürfen, dass der Uterus etwas stärker gewunden ist; ich habe deshalb letzteres auch gar nicht besonders hervorgehoben, obwohl es aus meiner Beschreibung selbst hervorgeht.

"Looss legt nun gerade auf die Windungen des Uterus grosses Gewicht, ob mit Recht, dürfte vielleicht noch der Prüfung bedürfen. In der angegebenen Diagnose der Gattung *Telorchis* Lss. steht ausdrücklich: 'Uterusschlingen die Darmschenkel nach aussen nicht überschreitend.' Dies trifft für *Distomum clava* nicht zu. Dort liegen Uterusschlingen auch noch marginal vom Darm und auf Querschnitten zwischen Keimstock und vorderem Hoden umkreist der von den Uterusschlingen eingenommene Raum die beiden Darmschenkel in Form einer 8.

"Ich halte auch heute noch diese verhältnismässig geringfügigen Abweichungen nicht für ausreichend, um einen Einwand gegen die Natürlichkeit der Gattung *Telorchis* in meinem Sinne bilden zu können. Ich sehe mich aber durch die systematische Arbeit von Looss genötigt, darauf hinzuweisen, dass es eventuell möglich wäre, die Gattung *Telorchis* Lhe. (nec Lss.) in zwei Untergattungen zu zerlegen: *Telorchis* Lhe. (nec Lss.) s. str. mit *Tel. clava* als einziger Art und *Cercorchis* n. subg. (= *Telorchis* Lss. nec (Lhe.) mit *Tel.* (*Cerc*) *Linstowi* (Stoss.) als typischer Art."

The absence or presence of an esophagus, then, is the main feature upon which Lühe bases his division of the genus into two subgenera, *Telorchis,* in which the esophagus is absent with *T. clava* as a type and *Cercorchis* which has an esophagus with *T.* (*Cerc.*) *Linstowi* as the type. Another feature which he considers of minor importance is the manner of the coiling of the uterus, and the relation of the coils to the intestinal caeca, in the subgenus *Telorchis* the coils not being confined within the space between the lateral borders of the caeca, while in the subgenus *Cercorchis* they are thus confined. In both subgenera the other organs have practically the same relationship to each other. It is

evident, therefore, that with respect to the presence of an esophagus and the lateral extent of the uterus the form which I have described belongs to the new subgenus *Cercorchis* of which *T. Linstowi* Stoss. is the type species.

A study of the comparative table of the species described for the genus *Telorchis,* with the exception of *T. angustum* Staff., from the intestine of *Chrysemys picta,* shows that the cirrus pouch always extends rather far posterior to the acetabulum with its base lying either beneath or very near the ovary and that the genital pore, though slightly removed to the left in most cases, is relatively near the anterior edge of the ventral sucker. It will, furthermore, be noticed that in my specimens and in *T. angustum* Staff. (Pl. I, figs. 2 and 8) the base of the cirrus pouch never lies posterior to the posterior edge of the acetabulum and often lies anterior to its anterior edge, being separated from the ovary by a distance of 0.458 mm and the genital pore is removed to the extreme left and relatively far anterior, so that the cirrus pouch and vagina pass ventral to the left caecum to reach it.

If Lühe has sufficient grounds for dividing the genus *Telorchis* into the two subgenera *Telorchis* and *Cercorchis* on the presence or absence of an esophagus and the extent of the uterine coils, it seems to me that the marked difference in the position of the cirrus pouch and the genital pore in *T. angustum* Staff. and my form, characters which both Looss and Lühe recognize as of generic value, constitutes an important morphological difference and warrants the creation at least of a separate subgenus if not a separate genus. The position of the cirrus pouch, always anterior to the acetabulum, being a distinctive character I therefore suggest the name *Protenes* as an appropriate one for such a subgenus with *Telorchis* (*Protenes*) *leptus* n. sp. as the type species. This new subgenus would contain the two species *T. leptus* n. sp. and *T. angustum* Staff.

In making a comparative study of the species in the genus *Telorchis* I noted what appears to me to be an error on the part of Braun, either in his description or in the classification of his species *T. pleroticus* and *T. bifurcus,* for in describing them he says (Braun, 1901: 13):

"Wegen gewisser Unterschiede zwischen *Dist. clava* Dies. und den übrigen zu *Telorchis* gerechneten Arten hat Lühe (Einig. Dist. aus Schlang. und Eidechsen, in Centralbl. f. Bakt. etc. [I] XXVIII, 1900, p. 566) die Gattung *Telorchis* in zwei Untergattungen geteilt; die eine mit *Dist. clava* als Typus behält den Namen *Telorchis,* die andere mit *D. Linstowi* (Stoss.) als Typus wird *Cercorchis* genannt. *Die hier beschriebenen* Telorchis-*arten gehören alle der Untergattung Cercorchis an.*" The "hier beschriebenen *Telorchis*-arten" referred to include the following: *T. aculeatus* (=*T. Linstowi*), *T. pleroticus* (Brn.), *T. bifurcus* (Brn.) and *T. parvus* (Brn.). It will be remembered that according to Lühe's classification, as quoted above, the presence or absence of an esophagus is the principal differentiating character which separates the subgenera *Telorchis* and *Cercorchis.*

In describing *T. pleroticus* (Brn.) Braun (1901: 17) says:

"Im Gegensatz zu den bisher bekannten Arten liegt der 0.13 mm breite, ellipsoide Pharynx nicht unmittelbar hinter dem Mundsaugnapf, sondern *dicht vor der Gabelstelle des Darms;* der damit entstehende Praepharynx ist 0.12–0.17 mm lang. Die Darmschenkel ziehen den Körperrändern sehr genähert bis fast an den Hinterrand und überragen die Hoden um eine bis zwei Hodenlängen." And again (1901: 18) in describing *T. bifurcus* (Brn.) he says:

"Wie bei *T. pleroticus* kommt auch hier ein Praepharynx (0.42–0.47 mm lang) vor und der etwa kuglige Pharynx (0.16–0.18 mm lang, 0.18–0.21 mm breit) *sitzt dicht vor der Gabelstelle des Darms.*" The two statements are confirmed in his drawings, figs. 5 and 2, plate I, of the same paper, both showing the pharynx "dicht vor der Gabelstelle des Darms." In neither case does he mention the presence or absence of an esophagus, which appears both from his description and drawings to be absent. Even though the coils of the uterus are confined between the caeca, this as Lühe says, is a minor character and "Die grösste anatomische Differenz, welche sich innerhalb der Gattung findet, betrifft den Oesophagus, welche bei *T. clava* (Dies.) vollständig fehlt, bei *T. nematoides* (Mühl) dagegen sogar recht lang ist." Therefore, if, as Braun's drawings indicate, "Dicht vor" means that the phar-

ynx is *immediately before* the division of the intestine and therefore that no esophagus exists, to be consistent with these facts, it seems to me that Braun should have placed *T. pleroticus* (Brn.) and *T. bifurcus* (Brn.) in the subgenus *Telorchis* instead of in the subgenus *Cercorchis*.

As previously stated the form which I have described differs from all the species included in the subgenera *Telorchis* and *Cercorchis* in the position of the cirrus pouch and genital pore with the exception of *T. angustum* Stafford and it only remains to determine whether or not it is identical with *T. angustum* (Stafford). The following is Stafford's description (1900: 407) and his correction (1905: 690) quoted in full:

"The worm here referred to I found in the intestine of the Painted Turtle (*Chrysemys picta*). It is a long, narrow (*angustum*), very thin animal. Its length, when mounted, is 3.150 mm, its breadth 0.455 mm. The anterior sucker measures 0.125 mm; the posterior, ventral sucker 0.095 mm broad, is situated 0.875 mm farther back.

"The pharynx, 0.075 mm long, is situated 0.050 mm from the mouth-sucker, and there is another, longer, constricted, piece, the esophagus, 0.225 mm between it and the forking of the intestine. The latter is very like the corresponding part in the preceding species [*Dist. chelydrae* n. sp.] parasitic in the Snapping Turtle.

"The unpaired part of the excretory system branches, I think, at the posterior testis.

"The testes are found, one behind the other, between the ends of the intestinal caeca, and the duct from the anterior one is turned to the right side. The penis is a long narrow organ (length 0.5 mm), lying obliquely across the left caecum, with its base to the right of the ventral sucker and its apex opening on the ventral surface, near the left margin, a little posterior to the line traversing the forking of the intestine. There is a penis sack containing a vesicula seminalis and the end of the intromittent organ is, in the mounted specimen I am describing, exserted from the genital pore and bent back under the body. The ovary lies behind the ventral sucker, a little in front of the middle of the body and between two enlarged lateral vessels of the excretory system. Behind it is the yolk reservoir with the transverse vitelline ducts. The anterior end of the oviduct—the vagina—lies on the opposite side of the ventral sucker from the penis-sack and opens with the latter at the genital pore. Eggs occupy the body from the sucker to the anterior testis but chiefly behind the ovary and between the intestines. The vitelline glands lie between the

intestines and the body walls, extending from the region of the genital pore to near the anterior testis."

Correction (1905: 690):

"The position of the testes, ovary, uterus and vitellaria certainly entitle it to be considered with the *Telorchis* group. The long distance between ventral sucker and genital pore, but especially the position of the latter, are important differences. Upon renewed examination I am convinced that the penis-sac and vagina cross under the left coecum and open on the dorsal surface, and that the exserted penis lies above the body. There is a prepharynx. The vitellaria do not extend so far in front as I indicated in the drawing. The largest eggs measure 0.042 × 0.021 mm."

On a whole Stafford's description and drawing (Pl. I, fig. 2) are a little meager and indefinite, but we can draw the following points of comparison from it. In the first place the host is *Chrysemys picta* while my form is from *Chrysemys marginata.* The position of the cirrus pouch and vagina and of the genital pore with their relations to the ventral sucker are practically identical with those of my specimens, which doubtless places them at least in the same subgenus. Other points of agreement are the position of the testes and their separation from the ovary by the mass of the uterus. As to the uterus nothing can be got from Stafford's description and drawing except its position between the caeca, and between the ovary and the anterior testis. In fact his drawing would seem to indicate that it was not arranged in two definite descending and ascending lateral fields as is that of my species. He says that the ovary is just "a little in front of the middle of the body. . . ." In my specimens it lies usually at or just a little posterior to the junction of the anterior and middle thirds of the body, bearing the same relation to the two branches of the excretory system that his does. According to his drawing the ovary in my species seems to have about the same relation to the acetabulum as in *T. angustum,* but both are placed farther forward, nearer the division point of the intestine. At first Stafford says the vitellaria extend from the region of the genital pore back to near the anterior testis, with which statement his drawing agrees; then he says, in his correction, "The vitellaria do not extend so far in front as I indicated in the drawing," but he

neglects to say just how far they do extend. In my specimens they never extend farther forward than the ovary.

The length of his specimen is 3.150 mm and the width 0.455 mm. Now, since it seems evident that his measurements are from a single specimen, they may be anywhere between a minimum and a maximum. Comparing this with mine, the mode for the length for my species is 2.013 mm, yet in four of the fourteen specimens compared the length exceeds 3.000 mm, and in two of the four it is greater than 3.150 mm. But in no one of these four does the width exceed 0.275 mm, which is a little more than half that of his specimen, and in only two of the other ten, which two are exceedingly contracted in length, thus increasing their width, does the width approach that named by Stafford, the width being 0.450 mm in one and 0.458 mm in the other. All other measurements given, such as that of suckers, esophagus and pharynx, are as much greater in his specimen than in mine as his specimen is larger than mine, though they have the same relative size as do mine.

By reference to Pl. I, figs. 2 and 8 it will be seen that my species is widest near the anterior end and that the posterior end is more pointed than the anterior, while *T. angustum* is widest some distance posterior to the ovary and the anterior end is relatively more pointed than the posterior, *i. e.*, the borders converge more rapidly toward the anterior.

As to the excretory system he says, "The unpaired part of the excretory system branches, I think, at the posterior testis." In my specimens it branches just posterior to the ovary, but Stafford could easily have been mistaken in this point, for only a few of all those which I mounted *in toto* showed the unpaired portion of the excretory system and it was only after making cross and sagittal sections that I could be certain of its position.

Neither in his descriptions nor in his drawing of the trematode which he found in the intestine of *Chrysemys picta* does Stafford indicate the presence of a Laurer's canal, a shell gland or a *receptaculum seminis*. Nor does he mention a seminal vesicle, *pars prostatica* or prostate gland in connection with the male genitals.

I have been able to identify and describe all of these structures in the trematode from the intestine of *Chrysemys marginata.*

In view of Stafford's meager description and his indefinite drawing and the differences already noted between *T. angustum* and the form which I have described, I am of the opinion that the two are not the same species and that the form found in *Chrysemys marginata* is a new species. If subsequent comparative study of the two forms bears out my conclusion I would suggest the name *Telorchis* (*Protenes*) *leptus,* as an appropriate one for the trematode which I have described as found in *Chrysemys marginata.*

DIAGNOSTIC CHARACTERS OF THE GENUS TELORCHIS

The following is a summary of the characters of the genus *Telorchis* based on the description of Looss (1899: 566), Lühe (1899: 524) and the present investigation.

Body elongate, more or less reduced toward posterior end, flat; skin armed or unarmed; testes, at posterior end of body, one behind the other in median line; cirrus pouch long, usually more or less coiled, contains seminal vesicle in posterior end, lies either wholly anterior to acetabulum, or extends posterior to it to region of ovary; genital pore dorsal or ventral, anterior to acetabulum and more or less removed to left of mid-line; ovary anterior to middle of body, in mid-line or slightly to one side, smaller than testes; yolk reservoir, *receptaculum seminis,* shell gland and Laurer's canal present in region of ovary; uterus long, coiled, filling space between ovary and testis and between caeca of intestine; oral sucker usually a little smaller than acetabulum; pharynx present; prepharynx present or absent; esophagus present or absent; long intestinal caeca extend almost to posterior end; yolk glands fill lateral areas from region of ovary to region of anterior testis; excretory system has a median dorsal vesicle which branches, at a point just posterior to the ovary into a Y-shape, and which opens through the excretory pore at the extreme posterior end.

Habitat.—Intestine of turtles, snakes and lizards.

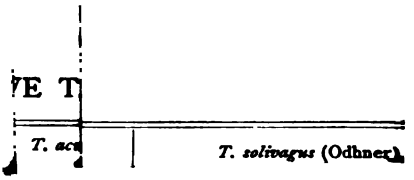
KEY TO SUBGENERA OF GENUS TELORCHIS

I. Cirrus pouch extends posterior to acetabulum.....II

A. Cirrus pouch does *not* extend posterior to acetabulum. *Protenes* n. s. g.

Type species.—*Telorchis leptus* n. sp. Barker and Covey.

II. Esophagus absent III



VE T

T. ac	*T. solivagus* (Odhner)

A. Esophagus present .....s. g. *Cercorchis* Lühe.
Type species.—*Telorchis Linstowi* (Stoss.).

III. Esophagus absent .....s. g. *Telorchis* Lühe.
Type species.—*Telorchis clava* Lühe.

I wish here to express my appreciation to Professor F. D. Barker, of the Department of Zoology of the University of Nebraska, at whose suggestion and under whose direction this work was begun and completed.

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EXPLANATION OF PLATE

All figures were made either with the *camera lucida* from original stained and mounted specimens or copied with a pantograph from the original drawings.

Abbreviations

ac.,	acetabulum,	*p.b.*,	pharynx,
c.,	cirrus,	*p.p.b.*,	pre-pharynx,
c.p.,	cirrus pouch,	*pr.g.*,	prostate glands,
cu.,	cuticula,	*p.p.*,	pars prostatica,
em.,	embryo,	*r.s.*,	receptaculum seminis,
es.,	esophagus,	*s.g.*,	shell gland,
ex.c.,	excretory canal,	*t.*,	testis,
ex.p.,	excretory pore,	*ut.*,	uterus,
g.p.,	genital pore,	*va.*,	vagina,
g.pa.,	genital papilla,	*v.d.*,	vas deferens,
i.,	intestine,	*v.dt.*,	vitelline duct,
l.,	lid,	*v.e.*,	vas efferens,
L.c.,	Laurer's canal,	*v.g.*,	vitelline gland,
m.,	mouth,	*v.s.*,	vesicula seminalis,
o.s.,	oral sucker,	*v.r.*,	vitelline reservoir.
ov.,	ovary,		

FIG. 1. Region of genital papilla of *Telorchis leptus* Barker and Covey, enlarged to show relations of cirrus pouch to other structures. Dorsal view. × 124.

FIG. 2. *Telorchis angustum* Stafford, after Stafford (1900: 399, plate 26, fig. 6). × 25.

FIG. 3. A part of a cross-section of *Telorchis leptus* Barker and Covey, taken through the genital papilla, showing relations of vas deferens to vagina. × 124.

FIG. 4. Cross-section through the middle of the cirrus pouch. × 124.

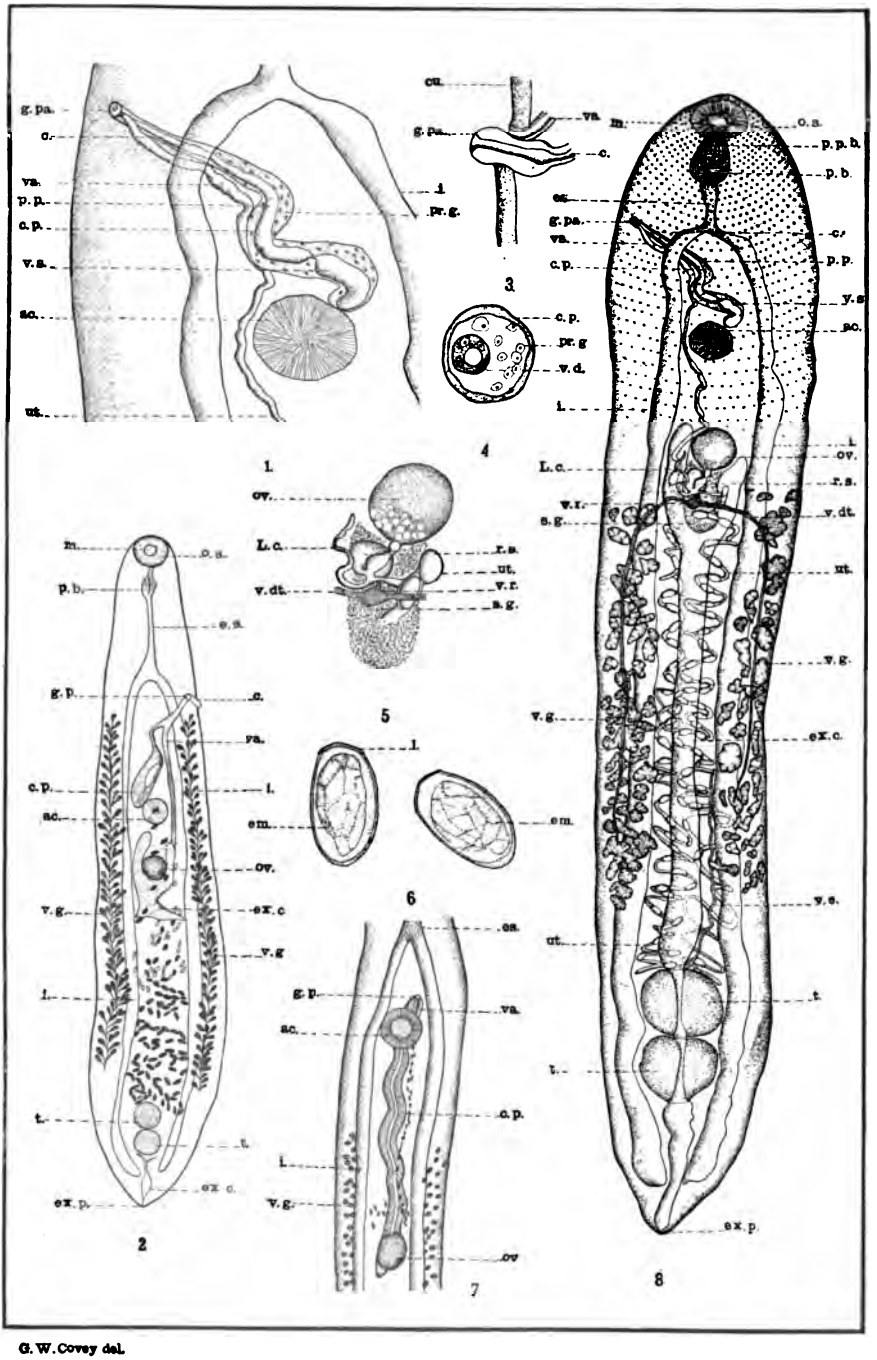
FIG. 5. Female reproductive organs of *Telorchis leptus* Barker and Covey. Dorsal view. × 124.

FIG. 6. Eggs of *Telorchis leptus* Barker and Covey. × 321.

FIG. 7. A portion of *Telorchis nematoides* (Mühl.), after Mühling (1898*a*: 1–118, plate 4, fig. 22) to show relations of the cirrus pouch to other organs, in the subgenera *Telorchis* and *Cercorchis*. × 30.

FIG. 8. *Telorchis* (*Protenes*) *leptus* Barker and Covey. Dorsal view. × 59.

Plate I



G. W. Covey del.

THE PENTATOMIDAE OF NEBRASKA

BY JOHN TODD ZIMMER

This paper is to be considered merely as a faunal list representing the family Pentatomidae in Nebraska as it is known at the present time. The list is based for the most part on specimens actually present in the collection of the University of Nebraska although several species are included, parenthetically, on the authority of previously published records when no specimens are now at hand. Necessarily the list is not a final one as, until recently, little collecting of Hemiptera has been done in the state and further work along this line will, undoubtedly, bring to light many species which are, as yet, unrecorded from Nebraska. In fact, the number of species is being constantly increased, and it has been found necessary to revise this paper, after it was once completed, in order to include a half dozen or more forms found since the list was begun.

Some synonymy has been included, but it has been restricted to a single citation (the first) of the various specific names applied to each species. Generic changes have not been mentioned. The synoptic keys are based mainly on the work of such men as Uhler, Stål, Signoret, Summers, Heidemann, Montandon, VanDuzee and Schouteden whose various tables have been rearranged and modified so as to include only Nebraskan forms. Some of the characters used are new ones, especially in cases where I have found what seem to be more constant differences than those employed in published synopses.

To Professors Lawrence Bruner and Myron H. Swenk, of the University of Nebraska, and to Mr. E. P. VanDuzee of Buffalo, N. Y., many thanks are due for valuable suggestions used in the preparation of this paper, and acknowledgments must also be made to the various authors whose synopses have been utilized in the keys.

It may be necessary to add that Monroe canyon, Warbonnet canyon and Hat creek are in Sioux county, Springview Bridge in Keyapaha county and Hogan's Bridge in Holt county. The other localities cited can be found on any map of the state.

Order HEMIPTERA-HETEROPTERA

DIVISION TROCHALOPODA

Superfamily PENTATOMOIDEA

Family PENTATOMIDAE

KEY TO THE SUBFAMILIES

1. Tibiae set with heavy spines in rows.....5
1. Tibiae without rows of heavy spines.....2
   2. Scutellum rarely exceeding the corium in length, in which case the bucculae converge caudally beneath the basal joint of the rostrum; frenum usually more than one third the length of the scutellum 3
   2. Scutellum usually longer than the corium, often covering the most of the abdomen; frenum present or absent, when present rarely exceeding one third the length of the scutellum.....4
3. Bucculae parallel, forming a groove for the reception of the basal joint of the rostrum which is normal in size.....PENTATOMINAE
3. Bucculae small, converging and uniting posteriorly beneath the basal joint of the rostrum which is swollen and enlarged....ASOPINAE
   4. Primary and secondary veins of alae parallel; frenum present or absent; scutellum usually smaller and more flattened. GRAPHOSOMINAE
   4. Primary and secondary veins of alae divergent, including a broad, spindle-shaped area; scutellum broader and more convex; frenum absent .....SCUTELLERINAE
5. Scutellum more or less flattened, triangular, narrowed at tip, shorter than the corium; the apex of the corium broad.....CYDNINAE
5. Scutellum broad and convex, covering much of the abdomen, exceeding the corium in length; corium narrowed at the tip...THYREOCORINAE

SUBFAMILY PENTATOMINAE

KEY TO THE TRIBES AND GENERA

1. Abdomen ventrally sulcate; head elongate; rostrum reaching posterior to the hind coxae; antennae distant from the eyes; juga with a lateral tooth near the apex.....(HALYINI) *Brochymena*

1. Without the above combination of characters and juga without a lateral tooth ..... (PENTATOMINI)..2
2. Segment 2 of the venter unarmed, without median spine or tubercle..3
2. Segment 2 of the venter with a median spine or tubercle projecting anteriorly between the hind coxae.....18
3. Odoriferous orifices either far laterad of the coxae or distinctly elevated or continued in a sulcus; head usually not strongly deflexed; lateral margins of the juga sometimes narrowly reflexed, the reflexed portions never greatly swollen.....4
3. Odoriferous orifices usually situated just anterior to the lateral border of the hind coxae, without sulcus and scarcely elevated; head strongly deflexed, front almost vertical, reflexed lateral margins of the juga much swollen; if sulcus is present it is continued laterally in a gradually disappearing wrinkle and the juga are no longer than the tylus.....17
4. Sulcus from the odoriferous orifices continued laterally in a gradually disappearing wrinkle; juga longer than the tylus and contiguous at their apices.....*Peribalus*
4. Sulcus absent or ending suddenly, not continued laterally in a gradually disappearing wrinkle; if the sulcus is absent, the orifices are far laterad of the coxae 5
5. Lateral margins of the pronotum sometimes with humeral spines or projections but these never bent posteriorly; veins of the membrane of the hemelytra simple or slightly furcate or else the lateral margins of the pronotum not conspicuously explanate...6
5. Lateral margins of the pronotum conspicuously explanate or with a prominent process at lateral angles bent slightly posteriorly; if the margins are explanate, the veins of the hemelytral membrane are irregularly furcate or anastomosing.....16
6. Scutellum usually with its apex distinctly narrowed and with its lateral margins concave towards the apex, or else the head but slightly deflexed and not triangular nor noticeably convex dorsally 7
6. Scutellum with its apex broad and rounded, and its lateral margins scarcely concave at any point; head strongly deflexed, or triangular and dorsally convex in which latter case the juga are longer than the tylus.....14
7. Veins of the membrane simple or slightly furcate.....8
7. Veins of the membrane irregularly furcate or anastomosing.....13
8. Frenum not extending beyond the middle of the scutellum.....9
8. Frenum extending beyond the middle of the scutellum.....10
9. Dorsal surface with coarse, black punctures, irregularly arranged, especially on the pronotum.....*Trichopepla*
9. Dorsal surface with finer, regularly arranged punctures.....*Carpocoris*

10. Tibiae sulcate above; lateral pronotal margins entire; humeral angles rounded, not prominent.....*Liodermion*
10. Tibiae terete without a sulcus or else the cephalic portion of the lateral pronotal margins crenulate; humeral angles prominent, either rounded or pointed.....11
11. Joint 1 of the rostrum extending a little posterior to the bucculae; tibiae terete without sulcus above.....*Mormidea*
11. Joint 1 of the rostrum shorter than the bucculae or else the tibae sulcate above 12
12. Lateral pronotal margins entire; tibiae terete.....*Solubea*
12. Lateral pronotal margins crenulate; tibiae sulcate above. *Euschistus*
13. Scutellum broadly rounded at the apex, as long as or nearly as long as the corium; apical margin of the corium rounded, its apical angle obtuse .....*Coenus*
13. Scutellum narrowed at the apex, not extending as far posteriorly as the corium; apical margin of the corium nearly straight, its apical angle acute .....*Hymenarcys*
14. Pronotum with three longitudinal ridges.....*Aelia*
14. Pronotum without three longitudinal ridges.....15
15. Head triangular and convex dorsally; juga longer than the tylus. *Neottiglossa*
15. Head not triangular nor convex dorsally; juga not longer than the tylus .....*Cosmopepla*
16. Lateral pronotal margins conspicuously explanate; no humeral projections .....*Menecles*
16. Lateral pronotal margins not explanate but with a prominent process bent slightly caudad at the humeral angles.....*Prionosoma*
17. Odoriferous orifices elevated and with the sulcus continued laterally in a gradually disappearing wrinkle.....*Thyanta*
17. Odoriferous orifices without a sulcus, scarcely elevated.....*Murgantia*
18. Segment 5 of the antennae less than twice as long as segment 2. *Nezara*
18. Segment 5 of the antennae more than twice as long as segment 2. *Banasa*

Tribe **HALYINI**

Genus **Brochymena** Amyot & Serville

KEY TO THE SPECIES

1. Humeral angles produced in a truncate lobe.....*arborea*
1. Humeral angles rounded, serrate.....*quadripustulata*

Brochymena arborea (Say).

1825. *Pentatoma arborea* Say, *Journ. Acad. Phil.*, IV, p. 311.
1839. *Halys erosa* Herrich-Shäffer, *Wanz. Ins.*, V, p. 70.

Not so common as the following species but like it present over the whole state. Specimens are at hand from Lincoln, Weeping Water, West Point, Neligh and Sioux county.

Brochymena quadripustulata (Fabricius).

1775. *Cimex 4-pustulatus* Fabricius, *Syst. Ent.*, p. 704.
1805. *Halys serrata* Palisot de Beauvois, *Ins.*, p. 187, *Hém.*, pl. 11, fig. 8.
1839. *Halys pupillata* Herrich-Shäffer, *Wanz. Ins.*, IV, p. 104, fig. 453.
1874. *Brochymena 4-punctata* Provancher, *Nat. Can.*, p. 74.

This form is the commoner of the two species of the genus found in Nebraska. A rather large series of specimens is in the collection from the following localities: Lincoln, Malcolm, Ashland, " Southeast Nebraska," West Point and Sioux county.

Tribe **PENTATOMINI**

Genus **Peribalus** Mulsant & Rey

KEY TO THE SPECIES

1. Connexivum usually black with a pale margin; scutellum narrowed at tip; head shorter and narrower.....*limbolarius*
1. Connexivum alternated; scutellum broader at the apex; head longer and much broader .....*abbreviatus*

Peribalus limbolarius Stål.

1872. *Peribalus limbolarius* Stål, *Svensk. Vet. Handl.*, X, No. 4, p. 34.
1872. *Peribalus modestus* Uhler, *Rept. U. S. Geol. Surv.*, V, p. 396.

Found over the whole state. Specimens are in the collection from Lincoln (March–December), Roca, Malcolm, Weeping Water, Nehawka, West Point, Cedar Bluffs, Sioux county.

This is our commonest pentatomid in the eastern part of the state. In autumn, it is almost impossible to sweep a patch of grass or weeds without getting a net full of these insects. In some of the specimens the pale margin of the connexivum is scalloped and, in one I have, the dark coloration extends entirely across the margin making a maculation very similar to that in *P. abbreviatus* (Uhler). The shape of the head and scutellum, however, furnish sufficient characters to serve as distinguishing features of the two species.

Peribalus abbreviatus (Uhler).

1872. *Holcostethus abbreviatus* Uhler, *Rept. U. S. Geol. Surv.*, V. p. 397.

Not common, but found in the northern and western parts of the state. Four females are in the collection from Crawford, Glen, Warbonnet canyon and Hogan's bridge.

Genus **Trichopepla** Stål

Trichopepla semivittata (Say).

1831. *Pentatoma semivittata* Say, *Het. Hem.*, N. Harm., Ind.
1851. *Pentatoma pilipes* Dallas, *List*, I, p. 247.

Recorded from Nebraska by Uhler in 1876 (*Bull. U. S. Geol. Geog. Surv. Terr.*, No. 5, ser. 2, p. 21). The only other record is a female taken at Roca, Nebraska, May 30, 1911, by Albert Pool.

Genus **Carpocoris** Kolenati

Carpocoris (Antheminia) remotus Horvath.

1872. *Carpocoris (Antheminia) lynx* Stål (not Fabricius), *Svensk. Vet. Handl.*, X, No. 4, p. 33.
1907. *Carpocoris remotus* Horvath, *Ann. Mus. Nat. Hung.*, V, p. 296.

I am using the foregoing name for our species on the example set by Banks's *Catalogue* although I have not seen the description given by Horvath. Uhler and Stål were unable to differentiate an American species distinct from the European *lynx* though both men had a series of specimens from the two continents. It is a rather variable species as it is, and its division may not hold good.

Found sparingly in the state. Three female specimens are at hand from Sioux county, Nebraska, collected in May and early June.

Genus **Liodermion** Kirkaldy

KEY TO THE SUBGENERA AND SPECIES

1. Lateral margins of the pronotum carinated but not distinctly reflexed; second joint of the antennae longer than the third. **(Liodermion)** *viridicata*
1. Lateral margins of the pronotum acutely carinated and narrowly, sharply reflexed 2

2. Second and third joints of the rostrum equal or subequal, the fourth shorter than the third; form more elongate and produced before .....**(Rhytidolomia)**..3
2. Second joint of the rostrum longer than the third, the latter subequal to the fourth; form proportionately broader and less produced before .....**(Chlorochroa)** *uhleri*
3. Larger (length, 15 mm); antennae black, only the basal joint green; costal edge of the hemelytra, beyond the middle, blackish; apex of the genital segment of the male feebly concave, with a rounded median tooth, the outer angles obtuse .....*belfragii*
3. Smaller (length, 11 mm); first, second and base of third antennal joints green, the remainder black; apex of the genital segment of the male deeply excavated, the outer angles subacute.....*faceta*

Liodermion (Liodermion) viridicata (Walker).

1867. *Hymenarcys viridicata* Walker, *Cat. Het.*, II, p. 283.

This odd-looking species is represented in the collection by a single male labeled "Western Nebraska."

Liodermion (Rhytidolomia) belfragii (Stål).

1872. *Lioderma* (*Rhytidolomia*) *Belfragii* Stål, *Svensk. Vet. Handl.*, X, No. 4, p. 33.
1904. *Pentatoma* (*Rhytidolomia*) *belfragei* VanDuzee, *Trans. Am. Ent. Soc.*, XXX, pp. 36–37.

This large form, resembling *faceta* somewhat in its markings, though differing in other respects, was recorded from Nebraska by Uhler in 1876 (*Bull. U. S. Geol. Geog. Surv. Terr.*, No. 5, ser. 2, p. 21). The only addition to this record is a single male taken at West Point in October, 1884, by L. Bruner. The species appears to be nowhere common.

Liodermion (Rhytidolomia) faceta (Say).

1825. *Pentatoma faceta* Say, *Journ. Acad. Phil.*, IV, p. 315.

This little species is not common, although a series of fifteen specimens is at hand, taken at Lincoln (February–November). No other localities are represented.

Liodermion (Chlorochroa) uhleri (Stål).

1872. *Lioderma* (*Chlorochroa*) *Uhleri* Stål, *Svensk. Vet. Handl.*, X, No. 4, p. 33.
1867. (?)*Cimex flavomarginatus* Kuschakevitsch, *Hor. Soc. Ent. Ros.*, IV, p. 99.

Of this form I have numerous specimens from "Southeast Nebraska," Indianola, and Cherry, Holt and Dawes counties. A large series was taken at Crawford in the latter county by Professor Bruner and myself on July 7 and 8, 1910, on pine (*Pinus scopulorum*). These individuals are very dark in color, some of them almost a dark purplish or brownish with the pale markings of deep red.

I have a single female which I secured at Lincoln, September 12, 1910, which is apparently of a distinct species, but owing to the fact that there is but the single specimen, and because the characters which distinguish it from *uhleri* are comparative, although marked, I prefer to leave the insect here with this note until sufficient material is at hand to enable me to determine the relationship with more certainty.

Genus **Mormidea** Amyot & Serville

Mormidea (Melanochila) lugens (Fabricius).

1775. *Cimex lugens* Fabricius, *Syst. Ent.*, p. 716.
1798. *Cimex albipes* Fabricius, *Suppl. Ent. Syst.*, p. 535.
1803. *Cimex gamma* Fabricius, *Syst. Rhyng.*, p. 7.
1805. *Pentatoma punctipes* Palisot de Beauvois, *Ins.*, p. 113, *Hém.*, pl. 8, fig. 56.

Present in the eastern part of the state; Lincoln (February–December), Roca, West Point. The species has not yet been found in western Nebraska although it has been recorded from Colorado.

Genus **Solubea** Bergroth

Solubea pugnax (Fabricius).

1775. *Cimex pugnax* Fabricius, *Syst. Ent.*, p. 704.
1803. *Cimex typhoeus* Fabricius, *Syst. Rhyng.*, p. 162.
1805. *Pentatoma orthocantha* Palisot de Beauvois, *Ins.*, p. 130, *Hém.*, pl. 9, fig. 9.
1811. *Cimex typhaeus* Wolff, *Ic. Cim.*, V, p. 180, fig. 174.
1831. *Pentatoma augur* Say, *Het. Hem.*, N. Harm., Ind.
1835. *Cimex vitripennis* Burmeister, *Handb.*, II (1), p. 367.

This curious little bug is easily recognized by its narrow, linear form and its humeral spines abruptly pointing anteriorly. The

first definite record is a female collected at Lincoln, March 2, 1910 (W. D. Rands and W. R. Martin). A few days later I found the remains of another individual in the same locality. Two unlabeled specimens in the collection may have been taken in Nebraska.

Genus **Euschistus** Dallas

KEY TO THE SPECIES

1. Juga longer than the tylus, apex of the head incised.....2
1. Juga not longer than the tylus, apex of the head not incised.....3
2. Hemelytra as broad as the abdomen; connexivum maculated dorsally .....*fissilis*
2. Hemelytra narrower than the abdomen, leaving exposed the broad pale connexivum.....*latimarginatus*
3. Margin of the venter with minute black points at each incisure; humeral angles more rounded .....*tristigmus*
3. Angles of the segments concolorous; humeral angles more acutely produced 4
4. Pronotum without a continuous calloused ruga; humeri less acute; genital segment of the male with a blackish basal spot. *variolarius*
4. Pronotum with a raised, calloused ruga connecting the humeri; humeri more acutely produced; genital segment of the male without a blackish basal spot.....*ictericus*

Euschistus fissilis Uhler.

1871. *Euschistus fissilis* Uhler, *Proc. Bost. Nat. Hist.*, XIV, p. 96.
1868. (?)*Diceraeus euschistoides* Vollenhoven, *Versl. Ak. Amst. Nat.*, ser. 2, II, p. 180.

Moderately common and well distributed over the state. Localities represented in the collection are Lincoln, Ashland, Weeping Water, Neligh, West Point, Halsey and Sioux county. Recorded also by Uhler.

Euschistus latimarginatus Zimmer.

1910. *Euschistus latimarginatus* Zimmer, *Can. Ent.*, XLII, p. 167, fig. 11.

The type of this species came from Cherry county and paratypes were at hand from the Dismal river, Brady Island and Halsey, all the specimens being females. Since the publication

of the description a female has been taken at Lincoln and two other individuals of the same sex were found at Halsey. At the latter locality, on August 20–28, 1911, I took both sexes in large numbers from the seed-pods of *Yucca* and *Opuntia* where they were abundant. There seems but little tendency toward variation in the series of fifty or more specimens at hand.

Euschistus tristigmus (Say).

1832. *Pentatoma tristigma* Say, *Ins. Louisiana*, N. Harm., Ind.
1837. *Pentatoma inconspecta* Westwood, *Hope, Cat.*, I, p. 42.
1851. *Euschistus luridus* Dallas, *List*, I, p. 207, pl. 7, fig. 6.

This is the smallest member of the genus found in the state and is easily recognized by the characters in the "key" as well as by the maculated connexivum and three dusky spots, one on each hemelytron and one on the scutellum. The species ranges over the entire state but is not common. Lincoln, Weeping Water, Hogan's bridge, Sioux county, Warbonnet canyon.

Euschistus variolarius (Palisot de Beauvois).

1805. *Pentatoma variolaria* Palisot de Beauvois, *Ins.*, p. 149, *Hém.*, pl. 10, fig. 6.
1825. *Pentatoma punctipes* Say, *Journ. Acad. Phil.*, IV, p. 314.
1842. *Cimex ictericus* Herrich-Schäffer (not Linnaeus), *Wanz. Ins.*, VI, p. 71, fig. 639.
1842. *Cimex sordidus* Herrich-Schäffer, *Wanz. Ins.*, VI, p. 70, fig. 637.

This is our commonest representative of *Euschistus* and is second only to *Peribalus limbolarius* in abundance in the eastern part of the state. The collection contains a large series of specimens from Lincoln, West Point, Weeping Water, Indianola, Ashland, Roca. None are at hand from western Nebraska although the species is found in Colorado.

Euschistus ictericus (Linnaeus).

1763. *Cimex ictericus* Linnaeus, *Amoen. Acad.*, VI, p. 399.
1805. *Pentatoma rubrofusca* Palisot de Beauvois, *Ins.*, p. 185, *Hém.*, pl. 11, fig. 3.
1851. *Euschistus cognatus* Dallas, *List*, I, p. 204.

I took a female of *ictericus* at Lincoln, June 12, 1910, and have another of the same sex secured at Neligh, Nebraska, June 22 of

the preceding year by W. C. Thompson. Uhler also gives Nebraska as within the range of the species.

Genus **Coenus** Dallas

Coenus delius (Say).

1831. *Pentatoma delia* Say, *Het. Hem.*, N. Harm., Ind., p. 8.
1843. *Hymenarcys aeruginosa* Amyot & Serville, *Hém.*, p. 125.
1851. *Coenus tarsalis* Dallas, *List*, I, p. 320, pl. 8, fig. 8.
1868. *Coenus punctatissimus* Vollenhoven, *Versl. Ak. Amst. Nat.*, (2) II, p. 183.

This odd-appearing, oval-shaped bug is moderately common, at least over the eastern half of the state. Specimens are at hand from Lincoln, West Point, Halsey, Sand hills, Holt county, Carns, Red Cloud, "Western Nebraska."

Genus **Hymenarcys** Amyot & Serville

KEY TO THE SPECIES

1. Size smaller (length, 8–9 mm); veins of the membrane irregularly furcate but not anastomosing.....*aequalis*
1. Size larger (length, 10–11 mm); veins of the membrane anastomosing. *nervosa*

Hymenarcys aequalis (Say).

1831. *Pentatoma aequalis* Say, *Het. Hem.*, N. Harm., Ind., p. 7.
1839. *Cimex dentatus* Herrich-Schäffer, *Wanz. Ins.*, V, p. 64, fig. 507.
1851. *Pentatoma Boxura* Dallas, *List*, I, p. 244.

Moderately common in eastern Nebraska, Lincoln, Roca, West Point.

Hymenarcys nervosa (Say).

1831. *Pentatoma nervosa* Say, *Het. Hem.*, N. Harm., Ind., p. 9.
1837. *Pentatoma pennsylvaniae* Westwood, *Hope, Cat.*, I, p. 35.
1843. *Hymenarcys perpunctata* Amyot & Serville, *Hém.*, p. 124.

A single female taken at Roca March 13, 1911, by R. T. Schlueter represents the only record for this species at hand.

Genus **Aelia** Fabricius

Aelia americana Dallas.

1851. *Aelia americana* Dallas, *List*, I, p. 223.

This interesting insect has been recorded from Nebraska by Uhler and Wickham (VanDuzee). On July 7, 1908, I secured a single male at Lincoln from a mass of driftwood during floods. The species seems to be rare wherever found.

Genus **Neottiglossa** Kirby

KEY TO THE SPECIES

1. Upper surface of the head strongly tumid within the lateral margins; bucculae concolorous, black; size smaller; form more slender ..... *sulcifrons*
1. Upper surface of the head almost flat transversely, not tumidly elevated within the lateral margins; bucculae pale with black punctures..2
   2. Size smaller; form less robust; three pale vittae of the prothorax continued on the head; venter less widely black, femora less invaded by black ..... *undata*
   2. Size larger; form more robust, blunt anteriorly; head entirely black and more coarsely punctate; venter more widely black and the femora more invaded by the same color..*undata* (var.) *trilineata*

Neottiglossa sulcifrons Stål.

1872. *Neottiglossa sulcifrons* Stål, *Svensk. Vet. Handl.*, X, No. 4, p. 18.

Six specimens, one female from Lincoln (June), and two males and three females from Halsey (June 8–9, 1911).

Neottiglossa undata (Say).

1831. *Pentatoma undata* Say, *Het. Hem.*, N. Harm., Ind., p. 8.

Represented in the collection by a female taken in Warbonnet canyon, May 20, 1901 (L. Bruner), and a series of five males and one female which I secured at Glen, July 13 and 14, 1910.

[Neottiglossa undata trilineata (Kirby).

1837. *Pentatoma trilineata* Kirby, *Faun. Bor. Amer.*, IV, p. 276, pl. 6, fig. 6.

This variety was recorded from Nebraska by Uhler in 1877 (*Bull. U. S. Geol. Geog. Surv.*, III, No. 2, p. 401). Uhler separated it from typical *undata* by the characters given in the above "key" but I am unable to refer any of the specimens before me to this form.]

Genus **Cosmopepla** Stål

KEY TO THE SPECIES

1. Scutellum entirely concolorous; transverse fascia of the pronotum irregular, broadened in the middle, slightly elevated; abdomen beneath broadly edged with yellowish ochraceous, this margin inwardly sinuated opposite each stigma.....*uhleri*

1. Scutellum with a red spot on each side near the apex; transverse fascia and longitudinal central spot of the pronotum narrow, linear; abdomen above narrowly edged with red.....*lintneriana*

Cosmopepla uhleri Montandon.

1893. *Cosmopepla uhleri* Montandon, *Proc. U. S. Nat. Mus.*, XVI, p. 48.

A single female labeled "Sioux county, Nebraska" is before me. I have no other records.

Cosmopepla lintneriana Kirkaldy.

1798. *Cimex carnifex* Fabricius, *Suppl. Ent. Syst.*, p. 535 (preoccupied by *Cimex carnifex* Fabricius, *Syst. Ent.*, p. 721 [1775]).

1909. *Cosmopepla lintneriana* Kirkaldy, *Cat. Hem. (Het.)*, I, p. 80.

This is a fairly common bug over the whole of Nebraska though more rare in the western portion. I have specimens from Lincoln, Roca, Neligh and Monroe canyon.

Genus **Menecles** Stål

Menecles insertus (Say).

1831. *Pentatoma inserta* Say, *Het. Hem.*, N. Harm., Ind., p. 6.

In addition to a record by Uhler, there are two specimens at hand taken at Lincoln, January 19, 1895, and July 7, 1908.

Genus **Prionosoma** Uhler

Prionosoma podopioides Uhler.

1863. *Prionosoma podopioides* Uhler, *Proc. Ent. Soc. Phil.*, II, p. 364.

1888. *Prionosoma villosa* Provancher, *Faun. Can. Hém.*, p. 204.

A pair labeled "Sidney, Nebraska," and two females, one of which I secured at Halsey, June 8, and the other at Imperial, July 1, 1911, are all of the specimens of this insect from Nebraska which I have seen.

Genus **Thyanta** Stål

KEY TO THE SPECIES

1. Size medium or large (for the genus); second joint of the antennae little or not at all longer than the third.....2
1. Size small; second joint of the antennae considerably longer than the third 3
2. Humeri acutely spinose .....*perditor*
2. Humeri obtuse or acute.....*custator*
3. Connexivum immaculate or nearly so; no black points on the venter. *rugulosa*
3. Connexivum distinctly maculated; venter with a row of black points along the posterior margin of each segment.....*punctiventris*

[**Thyanta perditor** (Fabricius).

1794. *Cimex perditor* Fabricius, *Ent. Syst.*, IV, p. 102.
1805. *Pentatoma fascifera* Palisot de Beauvois, *Ins.*, p. 150, *Hém.*, pl. 10, fig. 8.
1837. *Pentatoma collaris* Westwood, *Hope, Cat.*, I, p. 40.
1842. *Cimex transversalis* Herrich-Schäffer, *Wanz. Ins.*, VI, p. 66.
1842. *Cimex dimidiatus* Herrich-Schäffer, *Wanz. Ins.*, VI, fig. 629.
1851. *Euschistus rubiginosus* Dallas, *List*, I, p. 206.
1867. *Euschistus fasciatus* Walker, *Cat. Het.*, II, p. 245.
1867. *Euschistus adjunctor* Walker, *Cat. Het.*, II, p. 249.

Recorded by Uhler (*Bull. U. S. Geol. Geog. Surv. Terr.*, No. 5, ser. 2, p. 23). No other records are at hand and there are no specimens of this form present in the collection. It is a more southern species which is found from Venezuela, S. A. (Uhler) to Colorado (Uhler) and South Dakota (Osborn), so it may be looked for here.]

Thyanta custator (Fabricius).

1803. *Cimex custator* Fabricius, *Syst. Rhyng.*, p. 164.
1831. *Pentatoma calceata* Say, *Het. Hem.*, N. Harm., Ind.
1859. *Pentatoma pallido-virens* Stål, *Eug. resa, Ins.*, p. 227.

Found commonly over the whole state. Lincoln, Weeping Water, Red Cloud, Malcolm, Schuyler, Halsey, Carns, Glen, Pine ridge, Sioux county, Imperial, Haigler.

This is an extremely variable species. I have specimens intergrading from pale green through a darker shade to testaceous in color, though in the case of the latter tint the integument may not

be fully oxidized. Sanguineous markings are present in many of the specimens, a pale median vitta on the scutellum is present or absent and the membrane is immaculate or may be distinctly dotted with fuscous. Sometimes the connexivum is completely concealed by the hemelytra and at others left broadly exposed, and it may be uniform in color or may be distinctly maculated. The size of the insect is variable to some extent also. Two extremes in color and size may appear quite different.

Thyanta rugulosa (Say).

1831. *Pentatoma rugulosa* Say, *Het. Hem.*, N. Harm., Ind., p. 7.

A single male from Sioux county is at hand. The species is reported as common in Colorado and Utah.

Thyanta punctiventris VanDuzee.

1904. *Thyanta punctiventris* VanDuzee, *Trans. Am. Ent. Soc.*, XXX, p. 55.

I have, in the collection, a pair of these insects from Lincoln (March and April) and two unlabeled males which may have been taken in Nebraska.

Genus **Murgantia** Stål

Murgantia histrionica (Hahn).

1834. *Strachia histrionica* Hahn, *Wanz. Ins.*, II, p. 116, fig. 196.

But a single female of this species is in the collection. It is labeled "Sand-hills, July."

Genus **Nezara** Amyot & Serville

Nezara hilaris (Say).

1831. *Pentatoma hilaris* Say, *Het. Hem.*, N. Harm., Ind., p. 5.
1851. *Rhaphigaster Sarpinus* Dallas, *List*, I, p. 280.

Six examples of this form are before me. They were taken at Lincoln, July 11, 1908, July 25, 1910, and May, 1911, Roca, April 10, 1909, and West Point, September 21, and May, 1886. One of the largest of our pentatomids.

Genus **Banasa** Stål

Banasa dimidiata (Say).

1831. *Pentatoma dimidiata* (*dimiata*?) Say, *Het. Hem.*, N. Harm., Ind., p. 7.

Widely distributed in Nebraska. Specimens in the collection are from Lincoln, Springview bridge, Rock county, West Point, Sioux county.

SUBFAMILY **ASOPINAE**

Tribe **ASOPINI**

KEY TO THE GENERA

1. Anterior femora with a spine or tubercle.....*Perilloides*
1. Anterior femora unarmed 2
2. Second joint of the rostrum as long as or longer than the remaining joints together .....*Apateticus*
2. Second joint of the rostrum shorter than the remainder. *Rhacognathus*

Genus **Perilloides** Schouteden

KEY TO THE SPECIES

1. Anterior femora with a blunt tubercle.....*exaptus*
1. Anterior femora with a stout spine.....2
2. Form broader, less convex; pronotum shorter.....*bioculatus*
2. Form narrower, more convex; pronotum longer.....*circumcinctus*

Perilloides exaptus (Say).

1825. *Pentatoma exapta* Say, *Journ. Acad. Phil.*, IV, p. 313.
1837. *Pentatoma variegata* Kirby, *Faun. Bor. Am.*, IV, p. 276.
1851. *Zicrona marginella* Dallas, *List*, I, p. 109.

Five males of the typical variety, as described by Say and figured by Schouteden, are at hand. One is from Lincoln and one from the bad-lands of Sioux county; the other three are from Glen.

Perilloides bioculatus (Fabricius).

1775. *Cimex bioculatus* Fabricius, *Syst. Ent.*, p. 715.
1825. *Pentatoma clanda* Say, *Journ. Acad. Phil.*, IV, p, 313.
1872. *Perillus claudus* Uhler, *Rept. U. S. Geol. Surv.*, V, p. 395.

I have specimens of this species before me from all parts of

Nebraska as well as some additional material from southern California, New Mexico, Colorado, Wyoming and South Dakota. These specimens show an extremely wide range of variation. Some are undoubtedly *bioculatus* while others might well be *circumcinctus* although there are numerous intermediates between the two extremes. VanDuzee separates the two mentioned forms, *bioculatus* and *circumcinctus,* on the coloration of the antennae and the form of the pronotum. The antennae in my specimens show every grade of coloration from the condition in which they are entirely black to that where the first two joints and the basal half of the third joint are pale or rufous. There is also some variation in the shape of the pronotum, but no decided or abrupt difference. In short, I am inclined to believe that the two so-considered species are but two extremes of an exceedingly variable form; at least I am unable to separate them. Possibly future study may make their relations more certain.

Two females, one from the bad-lands of Sioux county, Nebraska, the other from Las Vegas, New Mexico, agree very well with the description given by VanDuzee of his variety "b" of *P. exaptus* (*Trans. Am. Ent. Soc.,* XXX, pp. 65–66) only my specimens have the femoral spine distinctly developed, as much so as do any of the specimens of the other varieties of *bioculatus.* They are but slightly smaller than the average of the species and vary in other particulars of only minor value. Both the pale and dark forms of typical *bioculatus* occur in the state as do some exact intermediates, though there are no intermediates between either of these forms and the two females mentioned above. The species is found commonly feeding on the larvae of the Colorado potato beetle *Leptinotarsa decemlineata.*

[Perilloides circumcinctus (Stål).

1862. *Perillus circumcinctus* Stål, *Stett. Ent. Zeit.,* XXIII, p. 89 (note).
1872. *Perillus marginatus* Provancher, *Nat. can.,* IV, p. 74.

I find nothing in the collection that I can satisfactorily separate from *bioculatus* in the direction of this species. Uhler records it, however, from this state in 1876 (*Bull. U. S. Geol. Geog. Surv. Terr.,* No. 5, ser. 2, p. 16), as distinct from *bioculatus* and I

therefore place it here in brackets. For further notes see under the preceding species.]

Genus **Rhacognathus** Fieber

[Rhacognathus americanus Stål.

1870. *Rhacognathus americanus* Stål, *Svensk. Vet. Handl.*, IX, No. 1, p. 33.

Uhler's record in 1876 (*Bull. U. S. Geol. Geog. Surv. Terr.*. No. 5, ser. 2, p. 16) again stands alone. There are no further records and no specimens in the collection.]

Genus **Apateticus** Dallas

KEY TO THE SUBGENERA AND SPECIES

1. Juga longer than the tylus, at times converging before it; apical angles of the sixth ventral segment not prominent, rounded.....2
1. Juga rarely longer than the tylus; apical angles of the sixth ventral segment prominent, more or less acute.....4
2. Humeri rounded, not prominent; posterior angles of pronotum acutely spinose .....**(Apateticus)** *marginiventris*
2. Humeri prominent, obtuse or acute; posterior angle of pronotum not spinose .....**(Apoecilus)**..3
3. Body narrower and longer; median plate of the female genital segment quadrangular; male genital segment with the superior lateral processes shorter, broad and more flattened.....*cynicus*
3. Body broader and shorter; median plate of the female genital segment triangular; male genital segment with the superior lateral processes long, twisted, narrow and acute.....*bracteatus*
4. Ventral spine long; humeri acute or spinose and venter with a median row of black spots.....*maculiventris*
4. Ventral spine short, or else the humeri obtuse.....5
5. Ventral spine short, not reaching to the hind coxae.....*modestus*
5. Ventral spine longer; humeri obtuse.....*placidus*

Apateticus (Apateticus) marginiventris (Stål).

1870. *Podisus* (*Apateticus*) *marginiventris* Stål, *Svensk. Vet. Handl.*, IX, No. 1, p. 49.

1895. *Podisus gillettei* Uhler, *Bull. Col. Exp. Sta.*, XXXI, p. 12.

1904. *Podisus* (*Apateticus*) *gillettei* VanDuzee, *Trans. Am. Ent. Soc.*, XXX, pp. 68–69.

A female of this most interesting bug was collected in Monroe

canyon, Sioux country, Nebraska, June 19, 1911, by R. W. Dawson. The specimen agrees exactly with the descriptions of both *marginiventris* and *gillettei* and I fully agree with Mr. VanDuzee in considering the diagnoses as being of the same insect. The species is quite distinct from any other form with which I am acquainted.

Apateticus (Apoecilus) bracteatus (Fitch). .

1856. *Arma bracteata* Fitch, *Trans. N. Y. St. Ag. Soc.*, XVI, p. 332.

A male specimen was taken at Indianola in May. It is identical in coloration with specimens from Wisconsin.

Apateticus (Apoecilus) cynicus (Say).

1831. *Pentatoma cynica* Say, *Het. Hem.*, N. Harm., Ind.
1851. *Arma grandis* Dallas, *List*, I, p. 96.

Uhler records this species from Nebraska in 1876 (*Bull. U. S. Geol. Geog. Surv. Terr.*, No. 5, ser. 2, p. 16). The only addition to this record is a female which I secured at Glen, July 14, 1910, and another female which is unlabeled but which may also have been taken in this state.

This is our largest pentatomid, although *Nezara hilaris* is almost its equal in size.

Apateticus (Podisus) maculiventris (Say).

1831. *Pentatoma maculiventris* Say, *Ins. Louisiana*, p. 11.
1851. *Arma spinosa* Dallas, *List*, I, p. 98.

A rather common bug over the whole state. Localities represented in the collection are Lincoln, "South-east Nebraska," Roca, West Point, Pine ridge, Sioux county.

[Apateticus (Podisus) modestus (Dallas).

1851. *Arma modesta* Dallas, *List*, I, p. 101.
1867. *Rhaphigaster aggressor* Walker, *Cat. Het.*, II, p. 359.

This is another species for which Uhler's record in 1876 (*Bull. U. S. Geol. Geog. Surv. Terr.*, No. 5, ser. 2, p. 16) stands alone. I can find no specimens from Nebraska in the collection which are referable to it.]

Apateticus (Podisus) placidus (Uhler).

1870. *Podisus placidus* Uhler, *Am. Entom.*, II, p. 203, fig. 124.

A male and two females of this species collected in Sioux county are before me. An additional male and two females without locality labels are also at hand and may be from this state. As the species is present in Iowa and Michigan it may eventually be found in eastern Nebraska but as yet no specimens have been recorded from that section of the state.

Subfamily **GRAPHOSOMINAE**

Tribe **PODOPINI**

Genus **Amaurochrous** Stål

KEY TO THE SPECIES

1. Size averaging larger (length, 6.5–7 mm); humeral tooth large, obtuse, its anterior edge arcuate; juga less explanate and less concave dorsally; tylus somewhat more elevated apically.....*cinctipes*
1. Size averaging smaller (length, 5.5 mm); humeral tooth short, acute, its anterior edge rectilinear, continuous with the latero-anterior margins of the pronotum; juga more explanate and more concave dorsally; tylus less elevated with the juga more nearly contiguous over its depressed tip.....*parvulus*

Amaurochrous cinctipes (Say).

1828. *Tetyra cinctipes* Say, *Am. Ent.*, III, pl. 43.
1839. *Podops dubius* Germar (not Palisot de Beauvois), *Zeitschr.*, I, p. 64.

A male and female taken by the author at Lincoln in March and June and a female taken by L. Bruner at West Point in June represent the only material in this species at hand from Nebraska. Uhler records it, however, from this state in 1876 (*Bull. U. S. Geol. Geog. Surv. Terr.*, No. 5, ser. 2, p. 8).

Amaurochrous parvulus (VanDuzee).

1904. *Podops parvulus* VanDuzee, *Trans. Am. Ent. Soc.*, XXX, p. 22.

Represented in the collection by two males and three females from West Point, Cedar Bluffs and Holt county.

The difference in the shape of the humeral tooth in this species

and in the preceding is very apparent, but, in addition, the two series, in the collection before me, vary also in the shape of the head. In the present species the juga are more explanate and rather concave dorsally, and the tylus is less elevated apically and has the juga more nearly contiguous over its depressed tip. Whether the character will hold in the presence of more material, I cannot positively say.

Subfamily **SCUTELLERINAE**

KEY TO THE TRIBES AND GENERA

1. Venter with an elongate stridulating spot on the disk, the spot crossing at least the fourth and fifth abdominal segments. (Tetyrini) *Homaemus*

1. Venter without a stridulating spot.....(Odontotarsini)..2
   2. Orifices not distinct .....*Phimodera*
   2. Orifices distinct, prolonged into a grdove.....*Eurygaster*

Tribe **TETYRINI**

Genus **Homaemus** Dallas

KEY TO THE SPECIES

1. Sexes much alike; head usually without pale submarginal vittae, without pubescence, with the punctures larger and coarser, and with the iridescent reflections more violaceous; larger (length, 7–9.5 mm). *aeneifrons*

1. Sexes rather different, the males without broad, longitudinal, median vitta, head with pale submarginal vittae, with whitish, prostrate pubescence, with the punctures finer, and with the iridescent reflections more greenish; smaller (length, 6–8 mm).....*bijugis*

Homaemus aeneifrons (Say).

1824. *Scutellera aeneifrons* Say, *Long's Exp.*, II, p. 299.
1839. *Pachycoris exilis* Herrich-Schäffer, *Wanz. Ins.*, IV, p. 5, fig. 346.

Rather common in the northwestern portion of the state. A large series of specimens of both sexes is at hand from "Western Nebraska," Glen, Monroe canyon, Warbonnet canyon, Pine ridge, Sioux county, Crawford, Halsey. A single female was taken at West Point in August, 1887, by L. Bruner.

Homaemus bijugis Uhler.

1872. *Homaemus bijugis* Uhler, *Rept. U. S. Geol. Surv.*, V, p. 393.
1875. *Homaemus consors* Uhler, *Bull. U. S. Geol. Geog. Surv. Terr.*, I, p. 272.

This species is more generally distributed over the state than the preceding although it is more common to the north and west. Glen, Pine ridge, Sioux county, Sand-hills, Springview bridge, Carns, Imperial. I secured a single female at Lincoln in June, 1908, which is the only one from eastern Nebraska that I have seen.

Tribe **ODONTOTARSINI**

Genus **Phimodera** Laporte

Phimodera binotata (Say).

1824. *Scutellera binotata* Say, *Long's Exp.*, p. 298.

I obtained a male of this interesting little insect at Halsey, Nebraska, on September 23, 1911, by sifting the sand in a blow-out. The species agrees fairly closely with the description of Say, though there are one or two prominent features which he does not mention, such as the pale spots within the stigmata and the light colored tubercles at the incisures of the connexivum. The specimen is covered with a very short, whitish pubescence.

Genus **Eurygaster** Laporte

Eurygaster alternatus (Say).

1828. *Tetyra alternata* Say, *Am. Ent.*, III, pl. 43, fig. 3.
1872. *Eurygaster nicoletanensis* Provancher, *Nat. Can.*, IV, p. 73.

Present across the state in the northern part. Specimens in the collection are from Glen, Pine ridge, Sioux county, West Point and Cedar Bluffs. A somewhat variable species both in size and markings.

Subfamily **CYDNINAE**

KEY TO THE TRIBES AND GENERA

1. Anterior tibiae rounded, not flattened.....(Sehirini) *Sehirus*
1. Anterior tibiae compressed, flattened.....(Cydnini)..2
2. Margins of the head with comb-teeth; coria of the hemelytra not

contiguous posterior to the scutellum; scutellum broadly rounded at the tip 3

2. Margins of the head without comb-teeth or else the coria of the hemelytra contiguous posterior to the scutellum; scutellum acutely triangular or narrowed at tip.....4

3. Anterior sinus of pronotum with an impressed submarginal line..... *Homaloporus*

3. Anterior sinus of pronotum without impressed submarginal line. *Cydnus*

4. Prothorax anteriorly margined.....*Pangaeus*

4. Prothorax not anteriorly margined.....5

5. Coria of the hemelytra not posteriorly contiguous; comb-teeth absent; scutellum rounded at tip.....*Geotomus*

5. Coria of the hemelytra posteriorly contiguous; comb-teeth present; scutellum acutely triangular.....*Amnestus*

Tribe **CYDNINI**

Genus **Homaloporus** Uhler

Homaloporus congruus Uhler.

1877. *Homaloporus congruus* Uhler, *Bull. U. S. Geol. Geog. Surv.*, III, No. 2, p. 377.

On August 31, 1911, I obtained a perfect female and the dried skins of three other individuals of a *Homaloporus* which I believe to be *congruus*. They agree with Uhler's description of that species, but differ somewhat from the figures given by Signoret, (*Ann. Soc. ent. France,* ser. 6, vol. 1, pl. 10, fig. 47). Such differences as do exist, however, may possibly be due to individual variation, difference in locality, or other causes.

Genus **Cydnus** Fabricius

Cydnus obliquus (Uhler).

1872. *Microporus obliquus* Uhler, *Rept. U. S. Geol. Surv.*, V, p. 394.

I took a series of twelve adults and as many immature forms of this species at Halsey, Nebraska, August 31, and September 2, 1911, in blowout sand. An additional pair are in the collection from Sioux county.

This is an interesting little form, varying in length from four to five millimeters. Signoret gives a formula for the arrangement

of the ciliae and comb-teeth on the juga of this species but I have found these characters too variable to be formulated. Their number and arrangement is not constant, even on opposite juga of the same insect.

Genus **Pangaeus** Stål

Pangaeus bilineatus (Say).

1825. *Cydnus bilineatus* Say, *Journ. Acad. Phil.*, IV, p. 315.

A rather large series of this species is present from Lincoln, collected from June to September. Other specimens are labeled "Roca" and "Southeast Nebraska" and I have seen specimens from Sterling, where they were reported as injuring wheat.

Genus **Geotomus** Mulsant & Rey

Geotomus robustus (Uhler).

1877. *Melanaethus robustus* Uhler, *Bull. U. S. Geol. Geog. Surv.*, III, No. 2, p. 390.

I have a female from Lincoln, as well as a pair from Washington, D. C., and I have seen a male taken also at Lincoln which I must refer to this species at least temporarily, although I believe that they are distinct from it. They differ in shape and in the posterior marginal bristles as nearly as I can make out from the description of Uhler's and the figures given by Signoret, but until I have a larger series of specimens belonging to this genus, including some undoubted *robustus*, it will perhaps be best to consider the insects at hand under this head.

Genus **Amnestus** Dallas

KEY TO THE SPECIES

1, Size larger (length, 4 mm); form somewhat more convex and color darker ..... *spinifrons*

1. Size smaller (length, 2.75 mm); form less convex and color paler.....2

2. Juga, each with five comb-teeth; anterior femora, sometimes at least, with large bifid tooth..... *pallidus*

2. Juga, each with only four comb-teeth; anterior femora without tooth ..... *pusillus*

Amnestus spinifrons (Say).

1825. *Cydnus spinifrons* Say, *Journ. Acad. Phil.*, IV, p. 316.

A single male of this species is present. It was taken at Lincoln, April 16, 1892.

Amnestus pallidus Zimmer.

1910. *Amnestus pallidus* Zimmer, *Can. Ent.*, XLII, p. 166, fig. 10.

The type of this species, a female, came from "Southeast Nebraska." No additional records.

Amnestus pusillus Uhler.

1876. *Amnestus pusillus* Uhler, *Bull. U. S. Geol. Geog. Surv. Terr.*, No. 5, ser. 2, p. 12.

A single specimen of this form, a male, was taken at West Point, May, 1888, by L. Bruner.

Tribe **SEHIRINI**

Genus **Sehirus** Amyot & Serville

Sehirus cinctus (Palisot de Beauvois).

1805. *Pentatoma cincta* Palisot de Beauvois, *Ins.*, p. 114, *Hém.*, pl. 8, fig. 7.
1831. *Cydnus ligatus* Say, *Het. Hem.*, N. Harm., Ind., p. 10.
1851. *Sehirus albonotatus* Dallas, *List*, I, p. 127.
1876. *Canthophorus cinctus* Stål, *Svensk. Vet. Handl.*, XIV, No. 4, p. 22.

A female of this pretty species was captured at Lincoln, July 16, 1910, by F. A. Burnham. It is the only record at hand.

Subfamily **THYREOCORINAE**

Genus **Thyreocoris** Schrank

KEY TO THE SPECIES

1. Hemelytra concolorous, not marked with paler.....2
1. Hemelytra marked with paler.....6
2. Entire margin distinctly ciliate, or else the abdomen without any ventral, submarginal row of setae.....5
2. Margin not ciliate; abdomen with a ventral, submarginal row of setae.....3

3. Size large (length, 5–6 mm); surface highly polished, punctures almost obsolete on the dorsal surface; no distinct ridge on the corium as below ..... *unicolor*
3. Size averaging smaller; surface distinctly punctured; a prominent ridge just within and parallel to the subcostal nervure of the corium, between it and the cubital nervure..... 4
4. Corium more narrow; cubital suture with a distinct, impressed line exterior and parallel to it, the line reaching nearly or quite to the tip of the corium; form of insect more narrowed posteriorly ..... *nitiduloides*
4. Corium broader; no line parallel to cubital suture and reaching tip of corium; sometimes a subparallel row of punctures not reaching tip; form more nearly oval..... 5
5. Abdomen without submarginal setae; margins not sinuate; reflexed lateral margins of the pronotum becoming obsolete before the polished, tubercular humeri; form more elongate..... *anthracina*
5. Margins ciliate; reflexed lateral margins of the pronotum reaching the humeral angles; form very short oval..... *ciliatus*
6. Pale margin of corium narrowed at base, not crossing subcostal nervure at base..... *lateralis*
6. Pale margin of corium broad at base..... 7
7. Size larger (length about 4 mm); punctures distinct, regular; form more elongate, not ciliate; genital segment of the male long. *montanus*
7. Size smaller; punctures less distinct and genital segment of the male very short or else the form more rounded and ciliate..... 8
8. Size smaller; color black with pale markings; form not ciliate. *pulicarius*
8. Size larger; form more rounded and ciliate; color ferruginous marked with blackish; hemelytra and lateral pronotal margins white ..... *sayi*

Thyreocoris unicolor (Palisot de Beauvois).

1805. *Scutellera unicolor* Palisot de Beauvois, *Ins.*, p. 33, *Hém.*, pl. 5, fig. 5.
1811. *Tetyra helopioides* Wolff, *Ic. Cim.*, V, p. 174, fig. 168.
1843. *Galgupha atra* Amyot & Serville, *Hém.*, p. 63.

Confined to the eastern part of the state. Specimens are from Lincoln, Nebraska City and Cedar Bluffs.

(For a fuller discussion of the characters of this form, see the following species.)

Thyreocoris nitiduloides (Wolff).

1802. *Cimex nitiduloides* Wolff, *Ic. Cim.*, III, p. 98, fig. 92.
1831. *Thyreocoris histeroides* Say, *Het. Hem.*, N. Harm., Ind.

This species is quite generally distributed over Nebraska and I have specimens at hand which were taken at Lincoln, Roca, Nebraska City, Cedar Bluffs, West Point, Neligh, Cherry county, Halsey and "Sand Hills."

This form and the preceding one approach rather closely to each other but the specimens I have can be separated on the characters given in the above key. *Unicolor* averages larger and more highly polished than *nitiduloides,* but in *nitiduloides* there is a deeply impressed line arising between the subcostal and cubital nervures at their base and running parallel to the former, leaving a distinct ridge parallel to it which extends the greater part of the length of the corium. This shows more plainly when the insect is viewed directly from above. In *unicolor* there may be a somewhat raised portion just within the subcostal nervure but it is not bounded inwardly by a distinct, impressed line. *Niger* more nearly approaches *nitiduloides* in this regard but in *nitiduloides* again there is a finely impressed line just exterior and parallel to the cubital nervure and reaching nearly or quite to the tip of the corium, making the nervure appear double, while in *niger* this line is absent, although a broken row of rather coarse punctures may occupy nearly the same position and the suture itself be lost in a punctate groove. These characters may seem trivial, but I have found them less subject to variation than the more commonly used ones of size, form, etc.

Thyreocoris niger (Dallas).

1851. *Corimelaena nigra* Dallas, *List,* I, p. 57.

Found only to the north and west. There are six specimens in the collection from Halsey, Crawford, Glen and Monroe canyon.

This species averages shorter oval than the preceding and shows a rather distinct transverse wrinkling on the pronotum and the base of the scutellum, while in color it is a more opaque black. Other characters are given under *nitiduloides.*

Thyreocoris anthracinus (Uhler).

1876. *Corimelaena anthracina* Uhler, *Bull. U. S. Geol. Geog. Surv. Terr.*, No. 5, ser. 2, pp. 270–71.

This western species, described from California, has been taken twice in Sioux county, both specimens being females. Although the form of the reflexed pronotal margins is quite characteristic, ten specimens which I have from California, Colorado and Nebraska all agree in lacking the submarginal row of setae on the venter, possessed by the other species and so noticeable in *ciliatus* and *sayi*. This character I have never seen mentioned in descriptions or synopses, but it alone is sufficient to separate this species from the other forms found in the state.

Thyreocoris ciliatus (Uhler).

1863. *Corimelaena ciliata* Uhler, *Proc. Ent. Soc. Phil.*, II, p. 156.

On July 1, 1911, I swept two males of this form from the mixed vegetation of a blow-out near Imperial, Nebraska, among the southwestern sandhills. One of the specimens is deep, iridescent purple in color, becoming green on the base of the pronotum; in the other the green predominates with only a few tinges of purple here and there in certain lights. The dorsal puncturation is rather regular in my specimens, and the punctures are connected by fine, short sulci running longitudinally, thus leaving little ridges which are in turn crossed by transverse, still more minute impressed lines which can be seen only under comparatively high magnification. This condition prevails most noticeably on the scutellum and gives the dorsal surface a rather peculiar finish.

Thyreocoris lateralis (Fabricius).

1803. *Tetyra lateralis* Fabricius, *Syst. Rhyng.*, p. 142.

1904. *Corimelaena Gillettii* VanDuzee, *Trans. Am. Ent. Soc.*, XXX, p. 8.

Easily identified by the form of the pale margin of the corium which is narrowed instead of expanded basally, although in the following species some individuals have the portion between the inner angle of the pale spot and the cubital suture with conspicuously darker punctures, a semi-approach to the coloration of

the present species. *Lateralis* is broader than either *montanus* or *pulicarius* and approaches *ciliatus* in form.

Thyreocoris montanus VanDuzee.

1904. *Corimelaena lateralis* VanDuzee (not Fabricius), *Trans. Am. Ent. Soc.*, XXX, p. 7.

1909. *Thyreocoris montanus* VanDuzee, *Ent. News*, XX, pp. 231–32.

I took a single female of *montanus* at Crawford on the pine ridge, July 8, 1910. A male from West Point, Nebraska, is much smaller than the average of the specimens in the collection belonging to this species, and is about the size of some specimens of *pulicarius*, although quite distinct from them in the specific characters.

Thyreocoris pulicarius (Germar).

1839. *Odontoscelis pulicarius* Germar, *Zeitschr.*, I, p. 39.

1865. *Thyreocoris flavomarginata* Thomas, *Trans. Ill. St. Ag. Soc.*, V, p. 455.

Moderately common, at least in eastern Nebraska. Specimens in the collection are from Lincoln, West Point and Germantown.

Thyreocoris sayi (VanDuzee).

1831. *Thyreocoris albipennis* Say (not Eschscholtz), *Het. Hem.*, N. Harm., Ind.

1904. *Corimelaena Sayi* VanDuzee, *Trans. Am. Ent. Soc.*, XXX, p. 10.

Very little is known concerning the habits or distribution of this insect owing to its apparent rarity. Say described it in 1831 from a specimen, lacking a head, collected in "Missouri . . . on the Missouri river." The exact locality is indeterminable, but since the specimen was taken on the expedition of Major Long, there is a probability that the place was somewhere within the present limits of Nebraska. Since that time, two specimens have been collected at Fort Collins, Colorado and the occurrence recorded. Another individual, thought to be of this species, was recorded from the same locality but was later found to be the immature form of *renormata* Uhler. Aside from these specimens no others have come to light.

For some time there has been a specimen in the collection, taken

at Halsey, Nebraska. On August 25, 1911, when I was collecting at that locality, Mr. A. G. Vestal, who was with me, called my attention to a bug which he had picked up. I found it to be an individual of the present species and search revealed the presence of such an abundance of others that I was able to secure a hundred or more in a comparatively short time. The habitat of the species here was a sandy stretch of ground, occupied by a prairie-dog town and covered with typical Nebraska sandhill vegetation, including among the plants *Euphorbia geyeri*. This plant, growing flat on the ground and spreading out rather broadly, sheltered the insects, which were found, sometimes a dozen or more at a time, under the prostrate stems and leaves. The same plant grew higher up on the hills and in the blow-outs, and I found the bug once in such a location on September 2, when I collected a dozen or more. On September 15, at Crawford, Nebraska, I collected another specimen in a canyon of the pine ridge near the canyon's mouth, although I did not take it from the *Euphorbia*, and at Halsey, again, on the 23d of the same month I found it still abundant, although after a heavy frost.

The individuals secured are in several stages of development and show, as well, various degrees of oxidation; some are of a uniform shade of pale fulvous, except for the white markings, and others are distinctly blackish in places as described by Mr. VanDuzee in *Trans. Am. Ent. Soc.*, XXX, p. 10. The venter is quite reddish in the very pale specimens but deepens almost to black in the more fully matured ones, especially on the pectus. The females, perhaps, average a little larger and darker than the males, and in both sexes the entire margins behind the head are finely ciliated as in *T. ciliatus*.

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WILLIAMS' "THE APHIDIDAE OF NEBRASKA"; A CRITICAL REVIEW

BY JOHN JUNE DAVIS

"The Aphididae of Nebraska"[1] by Thomas Albert Williams, although written in 1891, was not published until 1911[2] and, as might be expected, a number of the species described in manuscript as new in 1891 have, in the twenty years' interval between the date of writing and the date of publication, been described by other authors.

The object of this paper is, therefore, to note these synonyms and to give additional notes on the species, together with *camera lucida* drawings made from the type and cotype slides in the University of Nebraska collection. In several cases slides were deposited only in the U. S. National Museum and these, Dr. Howard informs me, are scattered throughout the collection and are at present unobtainable.

I am indebted to Professors Lawrence Bruner and Myron H. Swenk of the University of Nebraska for the loan of the slides in the Nebraska collection.

I. Biographical

Thomas Albert Williams was born November 25, 1865, in Fremont county, Iowa, and died December 23, 1900, at his home in Takoma Park, D. C. At the time of his death he was survived by a wife and child, his father, two brothers and a sister.

In 1867 his family moved from Iowa to Weeping Willow, Nebraska, and it was here that he early began to collect and study the treasures of "God's out-of-doors." He first attended district

[1] *Nebraska University Studies*, 10: 2, April, 1910.

[2] Professor Myron H. Swenk writes me that, although the date on the *Studies* is given as April, 1910, the paper was not published until 1911. He gives the date of distribution as March 4, 1911.

school at the age of eight and in 1883, at the age of eighteen, he entered the preparatory school of the University of Nebraska, but owing to ill health he was obliged to discontinue his university work after two years' study. That summer he worked on his father's farm and the following winter he taught district school. His health having greatly improved, he returned to the university the next year, graduating in 1889. After graduation he taught school for a year near Ashland, Nebraska, and then became principal of the Ashland high school, from which position he resigned after a half year's work to resume his postgraduate work and to finish his thesis for the master's degree. During his university course he showed a special aptitude and love for the natural sciences, and although entomology, and particularly the Aphididae, was a favorite study, he spent much of his time in botanical investigations, and in later years most of his work pertained to botany.

It was in 1891 that Mr. Williams published his first entomological paper, "Host-Plant List of North American Aphididae," issued as *Special Bulletin* No. 1 of the Department of Entomology, University of Nebraska. About this time he also prepared in manuscript his "Aphididae of Nebraska" as a thesis to fulfill part of the requirements of a minor in entomology for the degree of master of arts. This paper, containing the descriptions of thirty-nine new species and varieties, as well as redescriptions of many other species, was published posthumously in 1911, more than ten years after his death. It is a most valuable contribution to American aphidology and might be considered a masterpiece for the period in which it was written—twenty years ago.

Mr. Williams was married in February, 1891. The same month he was appointed assistant botanist in the Agricultural College of South Dakota, but was soon promoted to the head of the botanical department, which position he held six years. He was appointed an assistant in the Division of Agrostology, U. S. Department of Agriculture, in August, 1896, which position he held at the time of his death. Besides his departmental work Mr. Williams had charge of the classes in botany in Columbian

University (now George Washington University) and also became editor in chief of the *Asa Gray Bulletin* in 1899.

Mr. Williams was remarkably successful as a teacher and during his connection with the U. S. Department of Agriculture he showed unusual power as an organizer. He was an able botanist and one of the foremost authorities on lichens. His ability was recognized by all who knew him. Dr. F. Lamson-Scribner writes that Mr. Williams was in his employ several years and he "came to admire him very much, not only for his faithfulness and industry in the performance of his duties, but also for his high moral character and personal worth."

He was an active member of a number of scientific societies. When a student at the University of Nebraska, he was one of the seven who organized the Botanical Seminar of the University, which was probably the first botanical society of the kind in America.

His published papers on botany include ten papers and bulletins of the Division of Agrostology, U. S. Department of Agriculture, six bulletins of the South Dakota Experiment Station, and six papers on lichens. Besides the two entomological papers already mentioned, he was the author of the first part of bulletin No. 35 on "Common Fungous and Insect Foes of Farm and Garden," and No. 48 on "Three Injurious Insects," both bulletins of the South Dakota Agricultural Experiment Station.

For a fuller account of Mr. Williams' life the reader is referred to the *Asa Gray Bulletin*, Vol. VIII, No. 6, December, 1900, page 109. Many of the facts in our account are taken from the biographical sketch in the *Asa Gray Bulletin*.

II. Critical

Data in quotations are taken from the slide or slides examined. All of the species listed by Mr. Williams are noted here, the number before the species referring to the number of the species as given in his paper. If a synonym, or if the name has since changed, the name given by Williams is placed in parenthesis.

1. **Phylloxera caryae-caulis** (Fitch).
2. **P. vitifoliae** (Fitch) (*P. vastatrix* Planchon).
3. **Pemphigus alnifoliae** Williams.

" Pemphigus alnifoliae n. sp. No. 4. On Amelanchier alnifolia, War Bonnet Cr., 6/21, '90."

One winged viviparous female and several immature on the slide. This appears to be quite distinct from *P. corrugatans* Sirrine. It is a rather large species. Head half the width of the thorax. Sensoria on antennal segments as follows: 18 to 20 on III, 5 or 6 on IV, 4 on V (also the usual one at the distal end). Drawings of the head, antenna, and wing of the winged viviparous female are shown on Plate I, figs. 1 and 2.

I have received this species from Dr. Edith M. Patch, collected on *Amelanchier,* and from Prof. C. P. Gillette who collected it on *Amelanchier* and *Crataegus.*

4. **P. balsamiferae** Williams.

" Pemphigus balsamiferae n. sp. No. 5. On Populus balsamifera, Squaw Cr., June 24, 1890."

Five winged, one stem-mother and several pupae on the slide. This appears to be a good species. The gall as described by Williams agrees well with those of a new species of *Pemphigus* taken by the writer on balsam poplar at Chicago, Illinois, but the specimens differ by having no sensoria on segment VI. Beak reaches a little beyond the coxae of the first pair of legs. Measurements as follows: length of body, 1.89 mm; width, 0.69 mm; antenna, 0.73 mm; length of fore wing, 2.55 mm; width, 0.95 mm. *Camera lucida* drawings of the antenna, and fore and hind wings are given in Plate I, figs. 3 and 4.

5. **P. fraxinifolii** Riley.
6. **P. populicaulis** Fitch.
7. **P. populi-monilis** Riley.
8. **P. populi-transversus** Riley.
9. **P. rhois** Fitch.
10. **P. tesselata** (Fitch).
11. **Mordwilkoja oestlundi** (Cockerell) (*Pemphigus vagabundus* Walsh).
12. **Pemphigus walshii** Williams.

Unfortunately no specimens of this species were preserved, so

far as is known. I am unable to place it, but consider it as possibly a synonym of either *Pemphigus ulmifusus* Walsh or *Tetraneura ulmisacculi* Patch—more likely the former. I believe several errors, probably typographical, have been made but this cannot be positively ascertained. For instance, in line 5 of the description, 2 mm should probabiy read .2 mm; in line 12, 8 would be more likely than 80 rings on segment VI; and very probably "V, 0.80 mm" in the same line should read "V, 0.08 mm"; "discoids" in lines 17 and 19 should be "discoidals."

Under these circumstances it will be best to leave it as a separate species, at least until specimens can be collected from Ashland and Lincoln (Dinges), Nebraska, the type localities of Williams' *walshii,* and further comparisons made.

13. **Schizoneura americana** Riley.
14. **S. panicola** Thomas (*S. corni* Fabricius).

"Schizoneura panicola Thos. No. 16. On roots of Setaria, Weeping Water, Aug. 18, 1890."

Only wingless on slide. They agree perfectly with Hart's description of this species.

15. **S. crataegi** Oestlund.
16. **S. lanigera** Hausmann.
17. **S. rileyi** Thomas.
18. **Tetraneura graminis** Monell (*Colopha ulmicola* Fitch).

"Colopha ulmicola (Fitch). No. 20B. On Ulmus americana, Ashland, 6/11, '90."

There are five winged and several pupae on the slide. They prove to be *Tetraneura graminis* (*colophoidea*) Monell and not *Colopha ulmicola.*

19. **Lachnus dentatus** LeBaron.
20. **L. flocculosa** Williams.

The slides bearing specimens of this species are probably lost.

21. **L. ponderosae** Williams.

"Lachnus Ponderosae n. sp. No. 24. On Pinus ponderosa var. scopulorum, 6/20, '90. War Bonnet C."

The slide contains two winged, and one wingless adult viviparous female. This species is a rather large one. Only the

antennae of one of the winged are sufficiently distinct to make out the sensoria, and on segment III of these two antennae are 5 and 6 sensoria, respectively, in a row. *Camera lucida* drawings of the head, antenna, wing, hind tarsus, and cornicle of the winged viviparous, and the antenna of the wingless viviparous are shown on Plate I, figs. 5–9.

22. **L. rileyi** Williams.

The only specimens of this species preserved by Williams are in the U. S. National Museum and it has been impossible to secure these for examination. The description is too incomplete to place it with certainty. It agrees in many respects with a new species described in manuscript by the writer, our species being identical with one listed by Professor Gillette[8] as *Lachnus agilis* Kaltenbach.

23. **Pemphigus attenuatus** Osborn and Sirrine (*Lachnus ? smilacis* n. sp.).
24. **Chaitophorus bruneri** Williams.

"Chaitophorus bruneri n. sp. No. 25. On Populus tremuloides, War Bonnet Cr., 6/21, '90."

Only wingless viviparous females on the slide. *Camera lucida* drawings of the head, antenna, style and cornicle of the wingless viviparous female are given on Plate II, figs. 12–14.

25. **Ch. cordatae** Williams.

Types only in the U. S. National Museum, and I have had no opportunity to examine them.

26. **Ch. viminalis** Monell (*Ch. nigrae* Oestlund).

Mr. Williams speaks of this species (*nigrae*) as being a possible variety of *viminalis*. I am of the opinion that it is a synonym of *viminalis*.

27. **Ch. populicola** Thomas.
28. **Ch. viminalis** Monell (*Ch. salicti* Schrank).

"Chaitophorus salicti Schrank. No. 34. (Self) On Salix, Ashland, Oct. 10, 1890."

This slide bears one winged male, several wingless viviparous and wingless oviparous females. The other slide (No. 33) bears

[8] *Journal of Econ. Ento.*, 2: 385, Dec., 1909.

a few wingless viviparous and oviparous females. An examination of these slides shows the following characters additional to those given by Williams.

Wingless viviparous female: The average measurements of the antennal segments are as follows: III, .24 mm; IV, .12 mm; V, .11 mm; VI, base, .07 mm; VI, filament, .24 mm. The style globular and the anal plate only slightly or not at all lobed.

Wingless oviparous female: Measurements of antennal segments as follows: III, .24 mm; IV, .14 mm; V, .11 mm; VI, base, .07 mm; VI, filament, .25 mm. No antennal sensoria present except the usual ones at the distal ends of V and VI base. Hind tibiae bearing many small but conspicuous circular sensoria.

Winged male: Antennal measurements as follows: III, .39 mm; IV, .23 mm; V, .18 mm; VI, base, .085 mm; VI, filament, .25 mm. Segment III bearing 26 sensoria, IV with 17, and V with 10 to 12. Style globular with a lobed anal plate.

Camera lucida drawings of the antenna of wingless viviparous female; antenna, cornicle and style of winged male; and hind tibia and cornicle of wingless oviparous female are given on Plate II, figs. 15 to 20.

29. **Ch. quercicola** Monell (*Ch. spinosus* Oestlund).

"Chaitophorus spinosus Oestl. No. 35. On Quercus macrocarpa, Ashland, May 24, 1890."

Two winged and several adult wingless viviparous females on slide. This is Monell's *quercicola*.[4]

30. **Ch. viminalis** Monell.
31. **Callipterus asclepiadis** Monell.
32. **Cal. caryae** Monell.
33. **Cal. discolor** Monell.
34. **Cal. punctata** Monell.

Mr. Williams is very probably correct in considering *Cal. hyalinus* a synonym of *punctata*.

35. **Cal. trifolii** Monell.
36. **Cal. ulmifolii** Monell.
37. **Drepanaphis acerifolii** (Thomas) (*Drepanosiphum acerifolii* Thomas).
38. **Melanoxantherium bicolor** (Oestlund).

[4] See *Jour. Econ. Ento.*, 3: 415, Oct., 1910.

The slide bearing this species was referred to Professor Oestlund who confirmed Mr. Williams' determination. Drawings of the cornicle of this species and Monell's *smithiae* are given on Plate II, figs. 21 and 22, in order to show the characteristic cornicles of the two species.

39. **Hyalopterus pruni** (Fabricius).
40. **Aphis albipes** Oestlund.
41. **A. annuae** Oestlund.
42. **A. apocyni** Koch.
43. **A. artemisicola** Williams.

"Aphis artemisicola n. sp. Type No. 53. On Artemisia cana, Squaw Cr., 6/24, '90."

Several adult wingless and immature but no winged on slide. Antennal segment III of the wingless adult bears 6 to 9 circular sensoria on the basal two thirds. Cornicles imbricated and semi-reticulate at tip. Antennal measurements as follows:

III	IV	V	VI base	VI filament
0.50	0.39	0.355	0.124	0.71 mm
0.50	0.37	0.328	——	— mm
0.55	0.42	0.337	0.142	0.69 mm
0.515	0.37	0.328	0.124	0.66 mm

Camera lucida drawings of the head, antenna, cornicle and style of wingless viviparous female are on Plate II, figs. 23 to 25.

Eight species of Aphididae have been described from *Artemisia* in this country, four of these being described by Mr. Williams. For convenience in comparison I give herewith a table comparing the eight species. All of these species seem to be good and distinct, except possibly *A. canae* Williams, which appears to be a synonym of *A. artemisicola* Williams. They may best be considered distinct, however, until proved otherwise.

The characters enumerated in the following table are for the winged viviparous female unless otherwise indicated.

	Aphis frigidae Oestlund	*Aphis canae* Williams	*Aphis artemisicola* Williams	*Macrosiphum frigidae* Oestlund	*Mac. ludovicianae* Oestlund	*Mac. (artemisiae* Cow.) *cowenii* Hunter†	*Mac. artemisicola* Williams	*Microsiphum canadensis* Williams
Color of antennae		All black or III and base of IV pale	Black	Black	Black		Black except III and basal portion of IV	
Color of abdomen		Green	Reddish wine color	Dark green and with metallic lustre	Green	Head and thorax black, abdomen lighter	Pale green	Dark green
Dorsal abdominal markings		Green with darker mottlings	Marginal row of black dots			Four longitudinal rows of black dots	Sometimes row of marginal dots Light brownish green median line	
Relative antennal lengths	VI filament longer than III	VI fil. = III*	VI fil. longer than III	VI fil. shorter than III	VI fil. = III	VI fil. longer than III	VI fil. longer than III	VI fil. longer than III
Length of beak	Reaching 3d coxae	Reaching 3d coxae	Reaching beyond 2d coxae	Beak long	Reaching 3d coxae	Reaching about to 3d coxae		Reaching 2nd coxae
Color of cornicles		Black	Black	Black	Black		Black	
Color of style		Black	Black	Black	Yellowish		White	
Pulverulence	Body pulverulent	No mention of pulverulence	No mention of pulverulence	No mention of pulverulence	Body pulverulent	No mention of pulverulence	Numerous capitate hairs give the body a pulverulent appearance	No mention of pulverulence

* The description gives VI filament and III subequal in length. See note on this topic in discussion of this species in following pages.

† Apterous only.

	Aphis frigidae Oestlund	*Aphis canae* Williams	*Aphis artemisicola* Williams	*Macrosiphum frigidae* Oestlund	*Mac. ludovicianae* Oestlund	*Mac.* (*artemisiae* Cow.) *cowenii* Hunter†	*Mac. artemisicola* Williams	*Microsiphum canadensis* Williams
Relative lengths of cornicles and style	Cornicles long and slender. Style short and conical	Cornicles 16 mm. Style short.	Cornicles twice length of style	Cornicles twice length of style	Cornicles and style subequal in length	Cornicles two and a half times length of style	Cornicles three times length of style	Cornicles very small—not longer than wide. Style very small
Length of antennae	A little shorter than body	Shorter than body	Shorter than body	About as long as body	Longer than body	Longer than body	About as long as body	As long as body
Antennal sensoria		Sensoria on III and IV	Sensoria on III and IV	Sensoria on III and IV	Sensoria on III	Sensoria on III		

† Apterous only.

SYNOPTIC TABLE OF SPECIES FEEDING ON ARTEMISIA, IN AMERICA

A. Cornicles very small, not longer than wide.
Microsiphum canadensis Williams

AA. Cornicles longer and more conspicuous.

B. Conspicuous capitate hairs or spines covering the body.
Macrosiphum artemisicola Williams

BB. Body not bearing capitate spines.

C. Sensoria on antennal segments III and IV, of winged female.

D. Body dark green and with a metallic luster.
Mac. frigidae Oestlund

DD. Body reddish wine color....*Aphis artemisicola* Williams

DDD. Body green.....*A. canae* Williams

CC. Sensoria not present on antennal segment IV, of winged female.

E. Segment III and VI filament subequal in length.
Mac. ludovicianae Oestlund

EE. Segment VI filament longer than III.

F. Antennae shorter than body; body pulverulent.
Aphis frigidae Oestlund

FF. Antennae longer than body; body not pulverulent.
Mac. cowenii Hunter

44. **A. atriplicis** Linnaeus.

45. **A. canae** Williams.

"Aphis canae n. sp. Type No. 54. On Artemisia cana, Squaw Cr., 6/24, '90."

On this slide are six immature and one winged viviparous female, the latter having the wings torn off and the tips of its antennae broken off. It is stated in the description of this species that segments VI base and VI filament are subequal. Only one of the antennae is not broken off below the sixth segment and in this case the basal portion and filament are subequal but the end of the filament is plainly broken off so that it is impossible to say how long the perfect segment may have been. Possibly this broken segment led Williams to consider the base and filament subequal in length. Of the six immature individuals on the slide, four have the base and filament of segment VI subequal and two have the filament much longer than the base. Further, the winged is characterized as follows: Antennae on conspicuous frontal tubercles; segment III bears 19 to 22 irregularly placed circular sensoria, and IV, 7 to 9. The tip of the beak is excep-

tionally sharp pointed, both in this species and in *A. artemisicola.* On each abdominal segment is a small transparent spot near the margin, one on each side. Cornicles imbricate and semi-reticulate at the tip; about, or a little more than, twice the length of the style. This species resembles the genus *Macrosiphum* in many respects.

Camera lucida drawings of the head, antenna, cornicle and style of winged viviparous female; and the antenna and cornicle of an immature *Aphis* on the same slide are shown on Plate II, figs. 26 to 30.

46. **A. rufomaculata** Wilson (*A. chrysanthemicola* Williams).

"Aphis chrysanthemicola n. sp. No. 55. On Chrysanthemum, Greenhouse, Lincoln, Dec. 30, 1890."

Two winged and several adult apterous and a few immature individuals on the slide. This is the same as was described by Wilson as *A. rufomaculata.*[5]

47. **A. cnici** Williams.

"Aphis cnici n. sp. Type No. 51. On Cnicus, War Bonnet Cr., 6/23, '90."

Three winged viviparous females and three pupae on slide.

Should this species prove to be distinct, the specific name must necessarily be changed since it is preoccupied by *Aphis cnici* Schrank. Schrank's *cnici* seems to be one of the lost species, for I have been unable to find any original note on it since its description. Kaltenbach, in his *Monographie der Familien der Pflanzenläuse,* lists it as one of the "lost species" and quotes the original description on page 142, which I herewith copy.

"112. A. cnici. Schrank.

"Eiformig, etwas niedergedruckt, röthlichbraun; am Ende des Hinterleibes eine stumpfe Spitze, kein deutliches Schwänzchen. Die Saftspitzen bräunlich oder braun; die Füsse und Fühlhorner (von der Länge des Körpers) blass mit schwarzen Gelenken; der Saugstachel blass, an der Spitze schwarz.

"Schrank Fauna boica II. 122. 1239.

"Wohnort: Zwischen den Blüthen des essbaren Cirsiums."

[5] *Entomological News,* 19: 261, June, 1908.

Although brief, this description notes as present in *cnici* Schrank one of the salient characters present in *cnici* Williams, namely the "stumpfe Spitze" on the dorsum of the penultimate abdominal segment. The other characters given by Schrank agree fairly well with those of *cnici* Williams and the two are apparently identical.

Characters not mentioned by Williams in his description are as follows. In the original description no mention is made of the presence of sensoria on antennal segment V, although, with one exception, all of the winged individuals bear 2 to 4 small inconspicuous sensoria on this segment, not counting the large distal one. Just above the style, on the dorsum of the penultimate abdominal segment, is a long slender tubercle which might easily be mistaken for the style. Williams refers to this tubercle as follows, "apical segment drawn out into a blackish point, causing the insect to appear as if supplied with two tails." Cornicles reticulated at distal end; reaching to or a little beyond tip of style. Style small and conical. The size of this species is that of a typical *Macrosiphum*. *Camera lucida* drawings of the head, antenna, wing, cornicle, style and abdominal tubercle of the winged viviparous female are shown in Plates II and III, figs. 31 to 37.

48. **A. gossypii** Glover (*A. cucumeris* Forbes).
49. **A. euphorbiae** Kaltenbach.

"Aphis euphorbiae Kalt. On Euphorbia corollata. Weeping Water, Aug. 24, 1890."

Two slides numbered 60 and 61 respectively, each bearing winged and wingless viviparous females.

50. **A. frangulae** Kaltenbach.

"Aphis frangulae Kalt. No. 62. On Rhamnus lanceolatus, Fremont, July 31, '90."

All wingless on slide and most, if not all, are immature. The aphis is small, the largest, and most likely mature individual, measures 1.03 mm in length and 0.56 mm in width. Antennae 5-segmented. Cornicles rather short, measuring 0.095 mm in

length and 0.026 in breadth. *Camera lucida* drawings of the antenna, cornicle and style shown on Plate III, figs. 38 to 40.

51. **A. helianthi** Monell.

52. **A. impatientis** Thomas.

"Aphis impatientis Thos. No. 66. On Impatiens pallida, Aug. 22, '90."

Two winged—one in poor condition—and seven pupae on slide. Antennae not reaching to base of cornicles; segment III with 9 to 13 rather large sensoria, more or less in a row, segment IV with 4 to 7 in a row, and V and VI base with the usual distal ones. Measurements of antennal segments as follows:

III	IV	V	VI base	VI filament
0.29	0.23	0.18	0.097	0.267 mm
0.30	0.23	0.18	0.107	0.267 mm

Venation more or less irregular, *M.* (first branch of the third discoidal) branching midway or slightly nearer the apex of the wing. Cornicles cylindrical, wider at the base than at the apex, and slightly shorter than antennal segment IV. Otherwise as Thomas described it.

Camera lucida drawings of the head, antenna, wing, cornicle and style of winged viviparous female are given on Plate III, figs. 42–45.

53. **A. gossypii** Glover (*A. lilicola* Williams).

"Aphis lilicola n. sp. Type No. 67. On Lilium candidum, Greenhouse, Lincoln, Jan. 12, 1891."

Two winged and one wingless viviparous female and several immature on the slide.

Winged viviparous female: Segment III of the antennae bears 6 to 9 circular sensoria in a row. Measurements of three antennae of the two specimens on the slide are as follows:

III	IV	V	VI base	VI filament
0.334	0.236	0.204	0.114	0.293 mm
0.326	0.228	0.212	0.106	0.293 mm
0.261	0.147	0.163	0.098	0.244 mm

Camera lucida drawings of the antenna, wing, cornicle and

style of the winged viviparous female and antenna of the wingless female are given on Plate III, figs. 46 to 50. As indicated above this species appears to be a synonym of *A. gossypii* Glover.

54. **A. lonicerae** Monell.

55. **A. lonicericola** Williams.

"Aphis lonicericola n. sp. No. 70. On Lonicera parviflora, Ashland, May 14, 1890."

Several wingless adults and immature on the slide, all in rather poor condition. Antennal measurements of five antennae as follows:

III	IV	V	VI base	VI filament
0.32	0.23	0.21	0.106	0.32 mm
0.32	0.23	0.21	0.089	0.30 mm
0.28	0.21	0.19	0.089	0.32 mm
0.29	0.23	0.21	0.097	0.32 mm
0.29	0.25	0.22	0.097	0.30 mm

Cornicles measure 0.204 mm in length. Style short and triangular, being not unlike that of *A. lonicerae* Monell. *Camera lucida* drawings of the antenna, cornicle and style of wingless viviparous female are shown on Plate III, figs. 51 to 53.

56. **A. lugentis** Williams.

"Aphis lugentis n. sp. Type No. 71. On Senecio lugens, War Bonnet Cr., 6/23, '90."

On this slide is one winged female, two wingless adults, and several immature.

Winged viviparous female: This species is remarkable in that the *basal* one fourth of the hind tibia is swollen and bears 15 to 17 more or less circular sensoria. Antennae on moderate frontal tubercles, and reaching to about the base of the cornicles. Sensoria on antennal segments as follows, 28 irregularly placed on III, 11 to 15 more or less in a row on IV, and 3 to 4, not including the usual distal one, on V. Antennal measurements follow:

I	II	III	IV	V	VI base	VI filament	Total
0.106	0.08	0.37	0.27	0.25	0.12	0.61	1.806 mm
0.106	0.08	0.40	0.28	0.23	0.11	0.61	1.816 mm

It might be noted here that in his original description Williams says, "III longer than VII, but shorter than VI and VII together," which is not true

in the case of the specimens examined. Thoracic tubercles not recognizable in this specimen. Wing veins brownish and rather conspicuous; venation variable in the one winged individual on this slide, one wing having M_1 (1st branch of the third discoidal) branching nearer the apex of the wing than from where M_{3+4} branches and the other branching nearer where M_{3+4} branches than the apex. Length of body 2.26 mm, width 1.15 mm, length of cornicles 0.28 mm.

Wingless viviparous female: Antennae on small frontal tubercles; segment III sometimes without sensoria but usually bearing 1 to 4 circular ones near the distal end, IV with 7 to 8 circular sensoria; measurements as follows:

III	IV	V	VI base	VI filament
0.38	0.23	0.20	0.096	0.195 mm
0.39	0.23	0.21	0.124	0.195 mm
0.39	0.25	0.21	0.124	—— mm
0.37	0.24	0.22	0.124	0.195 mm

It should be noted that although VI filament is longest in the winged, IV is longest in the wingless. Thoracic tubercles prominent. Cornicles 0.23 mm long. Style conical and 0.16 mm in length. Length of body 2.2 mm; width 1.5 mm.

Camera lucida drawings of the head, antenna, hind tibia, cornicle and style of the winged viviparous female and antenna of wingless viviparous female are shown in Plate III, figs. 54 to 58.

57. **A. lutescens** Monell.
58. **A. maidis** Fitch.
A. maidi-radicis Forbes.

Mr. Williams described both the aerial and root aphids attacking corn as *Aphis maidis* Fitch.

59. **A. gossypii** Glover [*A. malvae* Walker (Williams)].

"Aphis malvae Walker. No. 74. On Hibiscus in Greenhouse, Lincoln, Jan. 23, 1890."

Slide contains several wingless, all of which are probably immature, and one winged viviparous female.

Winged viviparous female: Segment III of antennae bears 7 to 8 circular sensoria in a row. Antennal measurements as follows:

III	IV	V	VI base	VI filament
0.261	0.155	0.179	0.106	0.293 mm
0.261	0.171	0.179	0.106	0.277 mm

One wing with once branched media (third discoidal), the other wing with normal venation.

Camera lucida drawings of the antenna, wing, cornicle and style of the winged viviparous female are given on Plates III and IV, figs. 59–62. I am unable to separate this species, which Williams has called *malvae*, from *A. gossypii*.

60. **A. medicaginis** Koch.
61. **A. middletoni** Thomas.

Williams' description of the wingless form is quoted from Oestlund. No specimens of this species seem to have been preserved.

62. **A. mimuli** Oestlund.
63. **A. oenotherae** Oestlund.
64. **A. folsomii** Davis (*A. parthenocissi* Williams).

"Aphis parthenocissi n. sp. No. 81. On Parthenocissus 5-folius, Lincoln, Aug. 7, 1890."

Several wingless viviparous females on the slide. This is the same as *A. folsomii* described by the writer in *Entomological News*, 19: 143, April, 1908.

65. **A. pentstemonis** Williams.

"Aphis pentstemonis n. sp. No. 83. Penstemon glaber, War Bonnet C., 6/23, '90."

Four winged on this slide, three of which are viviparous and the other either a male or a different species.

Winged viviparous female: Antennae not reaching to base of cornicles; 26 to 34 irregularly placed, moderately tuberculate, circular sensoria on segment III, and the usual ones at the ends of V and base VI. A small but conspicuous tubercle on each side of what appears to be the second abdominal segment and also a similar one on each side of the segment just posterior to the cornicles. The thoracic tubercles are also prominent. Usually M_1 (first branch of the third discoidal) branching at a distance a little nearer the tip of the wing than to where M_{3+4} branches, but occasionally it branches midway. Measurements of the three visible antennae as follows:

I	II	III	IV	V	VI base	VI filament
0.07	0.06	0.49	0.28	0.25	0.14	0.35 mm
—	—	0.42	0.25	0.28	0.14	0.33 mm
—	—	0.40	0.25	0.23	0.16	0.32 mm

Length of body, 2.0 mm; width, 0.95 mm; length of cornicles, 0.28 mm; style, 0.19 mm.

Camera lucida drawings of the head, antenna, cornicle and style are given in Plate IV, figs. 63–65. The fourth specimen on this slide may be a male, although I cannot distinguish any of the male organs. It is a smaller individual than the viviparous, measuring only 1.5 mm in length and 0.65 mm in width. The antennae are shown on Plate IV, fig. 66.

Another slide of this same species bearing the same data as above slide but numbered "84" was also examined. It contains three winged, one probably a male. The two winged viviparous females agree with the ones above described except that they bear only 22 to 25 sensoria on III. The winged male (?) on this slide has 32 to 34 tuberculate sensoria on III, 4 to 9 on IV, and 1, not including the usual distal one, on V. This is a smaller individual than the viviparous female.

66. **A. rumicis** Linnaeus [?].
67. **A. salicicola** (Thomas).
68. **A. saniculae** Williams.

"Aphis saniculae n. sp. Type No. 86. On Sanicula, War Bonnet C., 6/21, '90."

Three winged and three pupae on the slide.

Winged viviparous female: Antennae barely reaching to base of cornicles; one antenna has segments III and IV coalesced, and in two others these segments are partially coalesced; segment III bears 21 to 27 circular, irregularly placed sensoria, IV with 9 or 10, V with 4, not including the usual distal one, and VI base with the usual distal ones. On each side just posterior to the thorax and also on each side of the segment posterior to the cornicles is a prominent fleshy tubercle. Thoracic tubercles also prominent. Antennal measurements as follows:

I	II	III	IV	V	VI base	VI filament
0.061	0.061	0.36	0.17	0.17	0.104	0.40 mm
0.061	0.061	0.35	0.16	0.16	0.104	— mm
0.069	0.061	0.35	0.15	0.16	0.104	0.38 mm
0.061	0.061	0.35	0.17	0.16	0.104	0.37 mm
0.061	0.061	0.51		0.16	0.104	0.38 mm

Length of body, 1.6 mm; width, 0.7 mm; length of cornicles, 0.27 mm; style 0.14 mm. Wing venation as in *camera lucida* drawing.

Camera lucida drawings of the head, antenna, wing, cornicle and style given on Plate IV, figs. 67 to 70.

69. **A. sativae** Williams.

"Aphis sativae n. sp. Type No. 87. On Cannabis sativa, Weeping Water, Oct. 10, 1888."

This slide bears two wingless, both apparently immature, and one winged. The winged individual is badly mutilated and is indeterminable. The antennae and wings are gone and the body which remains is an unrecognizable mass.

70. **A. senecionis** Williams.

"Aphis senecionis n. sp. No. 88. On Senecio canus, War Bonnet C., 6/30, '90."

Two winged and several adult wingless on the slide.

Winged viviparous female: Antennal segment III with 22 to 25 irregularly placed sensoria which vary more or less in size; IV with 7 to 9 sensoria more or less in a row; and V with 1 to 4, not including the usual distal one. Measurements of two of the antennae as follows:

III	IV	V	VI base	VI filament
0.32	0.15	0.16	0.106	0.18 mm
0.27	0.16	0.13	0.089	0.15 mm

The lateral thoracic tubercles prominent. Wing veins slender and pale brownish; vein M_1 (first branch of the third discoidal) branching at a distance nearer the tip of the wing than to where M_{3+4} branches. Length of body, 1.37 mm; width, 0.58 mm; length of cornicle, 0.15 mm; of style, 0.13 mm; of hind tarsus, 0.13 mm.

Camera lucida drawings of the antenna, wing, cornicle and style shown in Plate IV, figs. 71 to 74.

Wingless viviparous female: Antennal segment III with 7 to 11 irregularly placed, circular sensoria (usually on distal half of the segment); segment IV with 7 to 10 sensoria; and V with 2, not including the usual distal one. Relative lengths of antennal segments approximately the same as in winged individuals. Lateral thoracic tubercles present. Cornicles and style as in winged. Length of body, 1.75 mm; width, 1.05 mm.

Camera lucida drawing of the antenna is shown in Plate IV, fig. 75.

71. **A. setariae** (Thomas).
72. **A. solidaginifoliae** Williams.

"Aphis solidaginifoliae n. sp. No. 91. On Solidago, Platt R., Ashland, Sep. 20, 1890."

Many wingless oviparous females on slide, all of which are rather obscure. Some specimens bear 4 to 5 circular sensoria on antennal segment III, and 1 to 2 on segment IV, while these two segments are bare of sensoria in other specimens. Hind tibiae swollen and bearing numerous small sensoria. Other characters as given in the original description. *Camera lucida* drawings of the antenna, hind tibia, cornicle and style drawn from specimens on this slide are shown on Plate IV, figs. 76 to 79.

Another slide labeled as the one mentioned above but numbered "92" is also examined. It contains a number of oviparous females and one specimen which may be a viviparous female. This latter individual differs from the others by not having the hind tibiae swollen and not bearing sensoria. There are 12 to 15 irregularly placed sensoria on III, 8 to 11 on IV, and 1, not including the usual distal one, on V. The body appears to have either an egg or an embryo within it. Antennal measurements as follows:

III	IV	V	VI base	VI filament
0.26	0.17	0.14	0.095	0.295 mm
0.295	0.155	0.12	0.085	0.28 mm

Length of body, 1.65 mm; of cornicles, 0.14 mm.

The oviparous females on this last slide have from 1 to 4 sensoria on III, and 1 or 2 on IV. Average antennal lengths as follows: III, 0.147–0.165; IV, 0.095–0.104; V, 0.095–0.104; VI,

base, 0.078–0.087; VI, filament, 0.20–0.226 mm; length of body, 1.88 mm; of cornicles, 0.12 mm.

No winged specimens of *Aphis solidaginifoliae* were found in the University of Nebraska collection but a cotype from the collection of Mr. J. T. Monell has recently been loaned to me by Mr. Monell. The slide is labeled "Aphis solidaginis n. sp. On Solidago. Brookings, S. Dak. 7-14-1891." and bears three winged and three adult wingless viviparous females, as well as a number of immature individuals. Notes made from specimens on this slide follow,—

Winged viviparous female: Antennae extending almost to the base of cornicles; segment III bearing 27–34 irregularly placed, circular, tuberculate sensoria, segment IV with 12–19, and segment V with 5–6 similar sensoria; the usual cluster of smaller sensoria at tip of the basal portion of VI. Wing veins blackish; M_1 (= first branch of the third discoidal) branching at half or slightly less than half the distance from the tip of the wing to where M_{3+4} branches. Cornicles apparently black from examination of these balsam mounts, and rather short, they being about two fifths the length of antennal segment III. Style broadly conical, short, and apparently black. Measurements as follows: length of body 1.5 mm; width, 0.66 mm; cornicle, 0.156 mm; style, 0.087 mm; length of wing, 2.3 mm; width, 0.82 mm. Antennal measurements:

I	II	III	IV	V	VI base	VI filament
.05	.055	.41	.18	.13	.095	.33 mm
—	——	.38	.18	.14	.087	.33 mm
—	——	.39	.19	.13	.095	.30 mm
.05	.055	.37	.18	.15	.095	.36 mm
.05	.06	.365	.17	.15	.10	.345 mm

Wingless viviparous female: Antennae reaching a little beyond middle of body; segment III bearing 19–27 irregularly placed, circular, moderately tuberculate sensoria, segment IV with 11–15, segment V with 2–4, not counting the usual distal one, and VI base, with the usual cluster at the tip. Beak reaching to coxae of second pair of legs. Cornicles and style as in winged. Measurements as follows: length of body 1.6 mm; width, 0.9 mm; cornicle, 0.156 mm; style, 0.87 mm. Antennal measurements:

I	II	III	IV	V	VI base	VI filament
.05	.05	.26	.16	.12	.087	.295 mm
.05	.05	.25	.15	.12	.087	—— mm
.05	.05	.295	.17	.12	.087	.28 mm
.05	.05	.295	.16	.12	.087	.28 mm
.05	.06	.345	.19	.14	.104	.345 mm

This interesting species has been taken by us at Lafayette, Indiana.

73. **A. symphoricarpi** Thomas.
74. **A. vernoniae** Thomas.
75. **A. viburnicola** Gillette (*A. viburni* Scopoli).

"Aphis viburni Scop. Snowball. Ashland, Oct. 23, 1890."

Two slides numbered "95" and "96," respectively.

76. **A. yuccae** Cowan (*A. yuccicola* Williams).

"Aphis yuccicola n. sp. Type No. 97. On Yucca, Pine Ridge, June 18, 1890."

Three winged, one adult wingless and several immature on the slide.

Winged viviparous female: Antennal segment III bears 17 to 26 sensoria. Measurements of antennae as follows:

I	II	III	IV	V	VI base	VI filament	Total
0.065	0.057	0.334	0.204	0.163	0.122	0.310	1.255 mm
——	——	0.334	0.195	0.179	0.122	0.318	—— mm
0.065	0.057	0.358	0.228	0.195	0.114	0.318	1.335 mm
——	——	0.358	0.228	0.195	0.114	0.293	—— mm
——	——	0.326	0.228	0.187	0.114	0.318	—— mm

Vein M_1 (first branch of the third discoidal) always branching nearer the apex than the point where M_{2+4} branches. Cornicles reaching nearly or quite to the tip of style, and a little more than twice the length of the hind tarsus.

Camera lucida drawings of the antenna, wing, cornicle and style of the winged viviparous female on Plate V, figs. 80 to 83.

77. **Hyadaphis capreae** (Fabricius) (*Siphocoryne pastinaceae* Linnaeus).

"Siphocoryne pastinaceae Linn. No. 101. War Bonnet Cr., 6/21, '90."

Three winged viviparous females on slide. This is *H. capreae*, which may or may not be identical with *pastinaceae*. The dorsal abdominal tubercle is visible in each of the three specimens.

78. **Myzus achyrantes** (Monell).
79. **M. cerasi** (Fabricius).
80. **Macrosiphum oenotherae** (Williams) (*Myzus oenotherae* Williams).

"Myzus oenotherae n. sp. No. 104. On Oenothera."

Two winged viviparous females and five immature individuals on the slide. This may be the same as Sanborn's *Myzus biennis*. Sanborn's figure of this latter does not agree in all respects with his description of the same species. The description of *biennis*, including the numbers of antennal sensoria and lengths of antennal segments, agrees with that of *Macrosiphum oenotherae*. In one specimen of the latter species vein M_1 branches nearer the tip and in the other it branches nearer the point where M_{3-4} branches. Cornicles with an indistinct reticulation at the tip when viewed with a 1/6 objective. This is a *Macrosiphum* and not a *Myzus* as given by Mr. Williams. *Camera lucida* drawings of the head, antenna, cornicle and style of the winged viviparous female are given on Plate VII, figs. 114 to 116.

81. **Myzus plantagineus** Passerini.

82. **M. potentillae** Williams.

"Myzus potentillae n. sp. No. 108. On Potentilla, A, 5/24, '90."

Two winged, two wingless adults, and several immature viviparous females on the slide.

Winged viviparous female: Antennae very tuberculate; segments III and IV with numerous, irregularly placed, tuberculate sensoria, and segment V with 3 to 9 tuberculate sensoria; longer than body; measurements of segments as follows:

III	IV	V	VI base	VI filament
0.59	0.355	0.25	0.089	0.87 mm
0.62	0.328	0.27	0.097	0.78 mm
0.64	0.346	0.27	0.106	0.80 mm

Only one wing, of the four examined, has the media (discoidal) once branched. In the original description Williams says "cubitus [= media] often with but one branch." Length of cornicles, 0.21 mm; of style, 0.14 mm.

Wingless viviparous female: Antennal segments III and IV bearing many tuberculate sensoria. Measurements of antennal segments as follows:

III	IV	V	VI base	VI filament
0.62	0.32	0.274	0.096	0.78 mm
0.60	0.32	0.266	0.106	0.68 mm
0.58	0.30	0.250	0.089	0.69 mm

Beak reaching coxae of hind pair of legs. Length of cornicles, 0.28 mm; of style, 0.16 mm.

This species differs from *M. rosarum* as follows:

M. potentillae Williams.	*M. rosarum* (Kaltenbach).
Winged.	*Winged.*
Tuberculate sensoria on III, IV, and V.	Tuberculate sensoria on III only.
Segment VI filament longer than III.	Segment VI filament shorter than III.
Cornicles not reaching to tip of abdomen.	Cornicles reaching about to tip of abdomen.
Wingless.	*Wingless.*
Sensoria on antennal segments III and IV.	No sensoria on antennal segments III or IV.

Camera lucida drawings of the head, antenna, wing, cornicle and style of winged viviparous female; and head and antenna of wingless viviparous female, are given on Plates VII and VIII, figs. 117 to 121.

83. **M. ribis** (Linnaeus).
84. **M. rosarum** (Kaltenbach).
85. **Macrosiphum purpurascens** Oestlund (*Myzus thalictri* Williams).

"Myzus thalictri n. sp. No. 111. On Thalictrum, Ashland, 6/11, '90."

On this slide are three adult wingless females, two of which are viviparous and one oviparous, also four winged individuals, three of which appear to be males and one a viviparous female, and two immature. I consider Williams' *thalictri* a synonym of *M. purpurascens* Oestlund. Apparently only antennal segments III and IV bear sensoria according to Oestlund's synoptic table. However, I have winged specimens from Dr. Edith M. Patch which are labeled "77–06 Macrosiphum purpurascens Oestl. Meadow-rue, Thalictrum polygomum, Orono, Maine. July 21, 1906 . Det. by Oestlund," which bear numerous sensoria on segments III, IV, and V of the antennae, and which agree well with what I consider males on Williams' slide above mentioned.

Additional notes on the Williams' specimens as follows:

Winged viviparous female: Antennal segments III and VI filament subequal in length, IV three fourths the length of III, V about three fourths or more the length of IV, VI base, about one fourth of VI filament; segment III with 22 to 27 irregularly placed, circular sensoria, IV with 10 to 12 more or less in a row, and the usual distal sensoria on V and VI base. M_1 (first branch of the third discoidal) beginning at a distance nearer the apex of the wing than from where M_{3+4} branches. Body robust. Cornicles not reaching beyond the tip of the abdomen, exclusive of the style.

Wingless viviparous female: A few sensoria are borne on the basal portion of antennal segment III, as in case of the oviparous female. No sensoria on hind tibiae.

Winged male ?: Antennal segment III bearing 65 to 85 small, irregularly placed, circular sensoria, IV with 35 to 45, and V with 25 to 30. Wing venation as in the winged viviparous female. These and the characteristics given in Williams' original description agree with the males (?) received from Dr. Patch.

Wingless oviparous female: Several sensoria on the basal portion of antennal segment III; also numerous sensoria on the basal two thirds of the hind tibia. Comparative lengths of antennal segments as in the other forms.

Camera lucida drawings of the head, antenna, of winged viviparous female will be found on Plate VIII, fig. 122; head, antenna, cornicle, and style of the wingless viviparous female on Plate VIII, figs. 123 to 125; antenna of winged male as fig. 126; and antenna of wingless oviparous female as fig. 127.

86. **Myzus persicae** Sulz. (*Rhopalosiphum dianthi* Schrank).

87. **Rhopalosiphum poae** Gillette (*Rhop. dianthi* var. *poae* Williams).

"Rhopalosiphum dianthi (Schr.) var. poae n. var. No. 119. On Blue grass, Greenhouse, Lincoln, Feb. 1, 1890."

On this slide are two winged, one pupa, and several immature. Williams' variety *poae* is a synonym of Gillette's *Rhopalosiphum poae,* originally described in the *Canadian Entomologist,* 40: 61, Feb., 1908.

88. **Rhop. nymphaeae** (Linnaeus).

89. **Rhop. rhois** Monell.

90. **Amphorophora ampulata** Buckton ?

No specimens of what Williams questionably considered this species are in the Nebraska Collection.

91. **Macrosiphum ambrosiae** (Thomas) (*Siphonophora ambrosiae* Thomas).

Mr. Williams' slides of this species are deposited in the U. S. National Museum collection and I have not had an opportunity of studying them.

92. **M. artemisicola** (Williams)[6] (*Siph. artemisicola* Williams).

[6] I am inclined to consider this as synonymous with Kaltenbach's *Aphis glandulosa,* described in *Ent. Zeit. Stett.,* 7: 170, 1846. We have been unable to find any further reference to this species and it will probably be best to consider Williams's species separate for the present. Owing to the inaccessibility of this description I will here quote it in full, which I am able to do through the kindness of Professor Webster who has had the description copied for me.

"Aphis glandulosa Kaltenb. Drüsenhaarige Blattlaus.

"Ungeflügelte: Grünlich- oder weisslich-gelb, matt, oben dicht mit Drüsenhärchen besetzt, unterseits kahl: Rohren lang, dünn, allmälig schmaler werdend. Länge ¾'''.

"Geflügelte: Gelblich; Hinterleib grünlich mit braunen, kurzen Querstreifen; Fühler länger als der Leib, braun, am Grunde gelblich; Augen und die Einfassung der Nebenaugen braun. Länge ½–¾'''.

"Ungeflügelte: Fühler viel länger als der ganze Körper, sehr dünn, gelblich, die Gelenke der Geissel- und die 3 Endglieder braun; Augen dunkelbraun; Schnabel kurz, bis zum 2ten Beinpaare reichend, weisslich, das 3te Glied braun; der Kopf wie der ganze Körper gelblich; letzterer unterseits weisslich, oben mit grünen Grübchen am Seitenrande entlang, oft noch mit einer ähnlich gefärbten Rückenlinie versehen. Der ganze Oberkörper nebst dem Kopfe mit gestielten Drüsen ziemlich dicht besetzt; der Unterkörper kahl; Röhren lang, durchsichtig, sehr dünn, nach der Spitze allmälig dünner werdend, fast 3 mal so lang, als das aufgebogene, weisse Schwänzchen; Afterläppchen von der Farbe des Unterkörpers; Beine schlank, weisslich, nur die Füsse derselben braun.

"Geflügelte: Fühler länger als der Körper, braun, die beiden Grundglieder und die Basis des 3ten Gliedes weisslich-gelb; Augen dunkelbraun; Nebenaugen hell, von braunem Rande umschattet; Schnabel durchsichtig, die Spitze desselben braun; der Kopf sammt den Stirnknöpfen weissgelblich, ein Längsstrich über Stirne und Scheitel grunlich; der Thorax gelblich, der Halsring oben mit 2 grünen Grübchen; die 3 Lappen des mittlern Thorax-Ringes bräunlich; der Hinterleib ist grünlich, am Seitenrande entlang stehen dunkelbraune Querstriche, die sich zuweilen in 2 Pünktchen auflösen; auf dem 7ten Ringe nur ein braunes Fleckchen, der 8te und 9te Ring ist ungefleckt. Auf dem Hinterleibsrücken bemerkt man kurze Drüsenhärchen, welche demselben ein bethautes Ansehen geben; auf dem Kopfe befinden sich einzelne, nadelförmige Kölbchen, wie bei der

flügellosen Form. Die Röhren sind lang, sehr dünn, und, wie das 3mal kürzere Schwänzchen, blass-weingelb; das 1ste Afterläppchen von der Farbe des Bauches; das 2te gelblich. Beine weisslich, nur die Tarsen und die äusserste Spitze der Schienen braun. Flügel glashell, Rand-, Unterrandader und Flügelmal blass, die Schragädern braun und stark.

"Lebt auf dem gemeinen Beifuss (*Artemisia vulgaris* L.) Die Pflanze, auf welcher ich sie hier fand, war durch zahlreiche monstrose Blätter und Blüthen sehr entstellt; doch habe ich nicht entdecken können, ob diese Blattlaus die Urheberin derselben war. Vor mehreren Jahren bemerkte ich diese Monstrosität an derselben Pflanze zu Bingen am Rhein, fand jedoch damals (Mitte September) kein Thier darauf. Auch auf der hiesigen Pflanze sah ich die Blattlaus nicht in den braunen Höckern und Beulen der Blätter, sondern nur oben am Stengel und unter den gesunden Blattheilen."

"Siphonophora artemisicola n. sp. No. 126. On Artemisia cana, Squaw Cr., 6/24, '90."

Several wingless adults and immature on the slide. No winged. This is a very peculiar species, the numerous, conspicuous capitate spines appearing in the balsam mounts as black fungus spores or conidia covering the entire body. Antennae slender; segment III with two circular sensoria near the base; measurements of segments as follows:

III	IV	V	VI base	VI filament
0.37	0.284	0.266	0.098	0.48 mm
0.41	0.33	0.284	0.106	0.53 mm
0.40	0.31	0.266	0.089	0.49 mm
0.40	0.30	0.284	0.098	0.515 mm

Cornicles very slender and reaching beyond the tip of the abdomen; the tip imbricated; length 0.49 mm; width at middle 0.03 mm, a little wider at the base. Length of body, 1.83 mm; width, 1.06 mm.

Camera lucida drawings of the antenna, capitate spines, cornicles and style of wingless viviparous female are given in Plate V, figures 84 to 88.

93. **M. carnosa** (Buckton) (*Siphonophora carnosa* Buckton).

Quotes the description given by Buckton and considers his specimen as a distinct variety, describing it in a following paragraph.

94. **M. carnosa** Buckton var. **impatientis** (Williams) (*Siph. carnosa* Buckton var. *impatientis* Williams).

"Siphonophora carnosa Buck. var. impatientis n. var. No. 127. On Impatiens pallida, W., Aug. 22, 1890."

Two other slides bearing the same data as above but numbered "128" and "129," respectively, are examined. Slides number 127 and 128 bear only pupae and immature wingless. No. 129 bears one wingless viviparous female adult and several pupae.

Wingless viviparous female: Segment III of the antennae with basal half swollen and bearing 9 circular sensoria in a row. One of the cornicles completely gone and the other broken off at the middle, so that their characteristics cannot be described. Only one of the antennae is measurable—Segment III, 0.98; IV, 0.79; V, 0.66; VI, base, 0.178; VI, filament, 1.24; total length, including the two basal segments, 4.114 mm. Length of body, 2.63 mm; to tip of style, 2.99 mm.

Camera lucida drawings of the antenna and style of wingless viviparous female are given on Plate V, figs. 89 and 90.

94. **M. chrysanthemi** (Oestlund) (*Siph. chrysanthemi* Oestlund).
95. **M. sanborni** Gillette (*Siph. chrysanthemicolens* Williams).

"Siphonophora chrysanthemicolens n. sp. No. 131. On Chrysanthemum in greenhouse, Omaha, Jan. 13, 1891."

Only wingless individuals on the slide. This is a synonym of Gillette's *M. sanborni* described in the *Canadian Entomologist*, 40: 65, Feb., 1908.

96. **Microparsus variabolis** Patch (*Siph. desmodii* Williams).

"Siphonophora desmodii n. sp. No. 133. On Desmodium canescens, West Point, July 29, '90."

On this slide is one or possibly two wingless adults, the others being immature. This species is synonymous with Patch's *Microparsus variabolis*, described in *Entomological News*, 20: 337, Oct., 1909. I have recently received this species from Dr. C. C. Adams who collected it on *Desmodium* at Charleston, Illinois. The species has not heretofore been reported from Illinois.

97. **Macrosiphum erigeronensis** (Thomas) (*Siph. erigeronensis* Thomas).
98. **M. eupatorii** (Williams) (*Siph. eupatorii* Williams).

I have had no opportunity of studying this species since the types are lost.

99. **M. euphorbiae** (Thomas) (*Siph. euphorbiae* Thomas).
100. **M. frigidae** (Oestlund) (*Siph. frigidae* Oestlund).
101. **M. fulvae** (Oestlund) (*Siph. fulvae* Oestlund).

"Siphonophora fulvae Oest. No. 137. On Impatiens pallida, W., Aug. 22, 1890."

Only one wingless viviparous female on the slide. A *camera lucida* drawing of the antenna of this wingless female is given on Plate V, fig. 94.

Another slide of this species (No. 139) which bears the same data as the above mentioned slide, contains one winged and several immature individuals. Notes on the winged specimen are as follows: Measurements of the antennal segments:

III	IV	V	VI base	VI filament
0.72	0.746	0.56	0.178	0.835 mm
0.71	0.71	0.53	0.195	0.81 mm

$Media_1$ (first branch of the third discoidal) branching at about one half the distance from the tip to where $media_{3+4}$ branches. Cornicles semi-reticulate at tip, slender, and subequal to the style in length. The style robust. *Camera lucida* drawings of the head, antenna, cornicle and style are shown in Plate V, figs. 91 to 93.

102. **M. gaurae** (Williams) (*Siph. gaurae* Williams).

"Siphonophora gaurae n. sp. No. 140. On Gaura, Ashland, Sept. 4, 1890."

This slide contains three pupae, one winged, and two wingless. This and the species described by Williams as *gaurina,* discussed below, are the same, and *gaurae* must be considered as having priority since it was described first in the paper.

Wingless viviparous female: Antennal segment III bears 2 to 4 sensoria. Comparative lengths of III and VI filaments as follows:

III	VI filament
0.72	0.88 mm
0.74	0.90 mm
0.71	— mm

Winged viviparous female: Antennal segment III bears 18 to 21 irregularly placed, circular sensoria; no other sensoria excepting the usual ones at the distal ends of V and VI base. Measurements as follows:

III	IV	V	VI base	VI filament
0.74	0.46	0.49	0.12	0.86 mm
0.71	0.48	0.48	0.13	0.83 mm

Wings typical of the genus *Macrosiphum,* and M_1 (first branch of the third discoidal) branches at one half the distance from where M_{2+4} branches to the tip of the wing. Cornicles and style as in the wingless except that they appear to be shorter, especially do the cornicles. *Camera lucida* drawing of the cornicles and style of the wingless viviparous female is given in Plate V, fig. 95.

This is the same species as was collected by Mr. J. T. Monell and the writer at St. Louis, Mo., October 1, 1910, on *Gaura lindheimeri.* Both green and pink forms were found at that time.

103. **M. gaurae** (Williams) (*Siph. gaurina* Williams).

"Siphonophora gaurina n. sp. No. 141. On Gaura, Ashland, [Date not legible] 1890."

Three adult wingless females and one pupa on the slide. Antennal segment III of the adult female bears 3 to 6 circular sensoria on the basal third. Comparative lengths of segments III and VI filament as follows:

III	VI filament
0.76	0.77 mm
0.77	0.79 mm
0.66	0.77 mm
0.67	0.79 mm
0.76	0.77 mm

It is noteworthy that Williams in his original description says that segment III is a little longer than VI filament, which statement does not agree with the above measurements. Cornicles faintly imbricate at the tip. One of these wingless individuals is smaller, and the other two are slightly larger than one of the wingless

on the *gaurae* slide, while the small individual on this slide is very slightly, if any, larger than the other wingless on the *gaurae* slide. *Camera lucida* drawings of the head and antenna are given on Plate VI, fig. 96.

104. **M. ? grindeliae** (Williams) (*Siph. grindeliae* Williams).

"Siphonophora grindeliae n. sp. No. 142. On Grindelia squarrosa, Lincoln, May 8, 1889."

One winged viviparous female and several immature on the slide. Antennal frontal tubercles *Rhopalosiphum*-like. Antennal segments III and VI, filament, subequal in length, IV less than three fourths of III, V subequal to IV, and VI, base, one fourth the length of VI, filament; segment III with 15 to 19 circular sensoria in a row, V and VI base, with the usual distal ones (one antenna bears two small sensoria on IV, and two on V, exclusive of the usual distal one). $Media_1$ (first branch of the third discoidal) branching at a distance a little nearer the point where M_{3+4} branches than to the tip of the wing. Cornicles swollen near the tip and the tip also reticulated.

I am inclined to consider this as belonging to the genus *Rhopalosiphum* rather than to *Macrosiphum*. *Camera lucida* drawings of the head, cornicle, and style are given on Plate VI, figs. 97 to 99.

105. **M. ludovicianae** (Oestlund) (*Siph. ludovicianae* Oestlund).
106. **M. luteola** (Williams) (*Siph. luteola* Williams).

Types of this species are preserved in the U. S. National Museum collection and I have had no opportunity of examining them.

107. **M. menthae** (Buckton) (*Siph. menthae* Buckton).

Mr. Williams quotes from Buckton. No specimens of this species were preserved.

108. **M. muralis** (Buckton) (*Siph. muralis* Buckton).

"Siphonophora muralis Buckt. No. 146. On Lactuca, Fremont, July 31, 1890."

Three winged, two wingless adults, and one immature on the slide.

Winged female: Antennae longer than the body; segment III very long, as long as V and VI together; segment III with many (94 to 122) tuber-

culate, irregularly placed, circular sensoria, IV with 2 to 7, and V and VI base, with the usual distal ones. In the balsam mounts the cornicles do not quite reach to the tip of the style; tips of the cornicles reticulated. Measurements as follows:

I	II	III	IV	V	VI base	VI filament	Total
0.139	0.087	1.37	0.40	——	——	——	—— mm
0.139	0.087	1.44	0.42	0.37	0.104	——	—— mm
0.139	0.087	1.30	0.38	0.37	0.104	0.78	3.160 mm
0.139	0.087	1.31	0.43	0.37	0.104	0.76	3.200 mm
0.139	0.087	1.25	0.35	0.37	0.104	0.75	3.050 mm
0.139	0.087	1.31	0.35	0.33	——	——	—— mm

Media$_1$ usually branching a little nearer the tip than to where M_{3+4} branches. Average length of cornicles, 0.51 mm; of style, 0.35 mm; of body (not including style) 1.9 mm; width, 0.84 mm.

Wingless female: Antennae a little longer than the body. Segment III with about 75 irregularly placed, tuberculate sensoria, none on IV and the usual ones on V and VI. Relative lengths of antennal segments as in winged. Cornicles reaching to end of body but not to tip of style. Ends of cornicles reticulated.

Camera lucida drawings of the head, antenna, cornicle and style of the winged viviparous female and the antenna of the wingless female are given on Plate VI, figs. 100 to 103.

109. **M. pelargonii** (Kaltenbach) (*Siph. pelargonii* Kaltenbach).

"Siph. pelargonii Kalt. No. 148. On Hollyhock, Ashland, Nov. 1, 1890."

One winged female, one wingless oviparous female and one immature on the slide.

Winged female: Antennae much longer than body; placed on conspicuous frontal tubercles; segment III with 18 to 21 circular sensoria, more or less in a row. Measurements of antennal segments:

I	II	III	IV	V	VI base	VI filament
0.14	0.08	0.82	0.71	0.61	0.18	1.17[1] mm
0.14	0.08	0.83	0.71	0.59	0.18	0.93[2] mm

Media$_1$ (first branch of the third discoidal) arising nearer tip of wing than to where M_{3+4} branches. Cornicles reaching to tip of style; imbricated,

[1] A little shrunken at tip.

[2] Tip broken off.

excepting tip which is reticulated; length 0.80 mm. Style typical of the genus *Macrosiphum,* length 0.34 mm.

Wingless oviparous female: Antennae longer than body; segment III with 4 to 6 circular sensoria in a row on the basal portion; measurements of segments follow:

I	II	III	IV	V	VI base	VI filament	Total
0.12	0.07	0.89	0.57	0.59	0.16	0.90	3.30 mm
0.12	0.07	0.89	0.59	0.59	0.17	0.92	3.35 mm

Hind tibiae swollen and bearing many sensoria on the basal four fifths.

Another slide labeled "Siphonophora pelargonii ? Kalt. No. 149. On Hollyhock, Ashland, Nov. 1, 1890" contains one winged female and three immature. The antennae of the winged specimen bears 16 to 20 sensoria on III and the usual ones on V and VI; antennae much longer than body; measurements as follows:

III	IV	V	VI base	VI filament
1.22	0.75	0.65	0.17	1.08 mm
1.28	0.73	0.63	0.17	1.06 mm

Venation as described for winged individual on slide No. 148. Cornicles reaching beyond tip of abdomen but not to tip of style, the tips reticulated.

The third slide labeled "Siphonophora pelargonii Kalt. No. 150. On Geranium in greenhouse, Omaha, Jan. 16, 1891" contains wingless viviparous females and immature. Antennal segment III bears 18 to 21 circular sensoria more or less in a row, extending the entire length of the segment; total length greater than that of body; measurements as follows:

III	IV	V	VI base	VI filament
0.65	0.56	0.45	0.16	1.02 mm
0.66	0.54	0.46	—	— mm
0.68	0.56	0.49	0.16	1.04 mm
0.71	0.59	0.51	0.16	1.05 mm

Cornicles slender and reaching beyond tip of style; subequal or slightly shorter than segment III of antenna and at least twice the length of style; imbricated to tip (no reticulation).

This *Geranium* species agrees with specimens which I have collected on *Pelargonium* in greenhouses but my winged specimens

do not agree with the winged viviparous females collected by Williams on hollyhock. There are no wingless viviparous females from hollyhock in the collections of Williams so that an exact comparison cannot be made. I think, however, that there is little doubt but that Williams has confused two species. Whether or not one of these is *M. pelargonii* Kaltenbach we cannot say, not having European specimens for comparison.

Camera lucida drawings of the head, antenna, cornicle and style of winged viviparous female; and antennal segment III, and hind tibia of wingless oviparous female (drawn from specimens on slide No. 148) are given on Plate VI, figs. 104 to 108.

110. **M. destructor** (Johnson) (*Siph. pisi* Kaltenbach).

" Siphonophora pisi Kalt. No. 152. On Clover in greenhouse, Lincoln, Dec. 30, 1890."

Winged and wingless individuals on this slide. As shown by Miss Patch, it will be more proper to retain Johnson's species as distinct from the European *pisi* until the positive identity of the two is established.

111. **M. rubi** (Kaltenbach) (*Siph. rubi* Kaltenbach).

Specimens were deposited only in the collection of the U. S. National Museum and I have had no opportunity of examining them.

112. **M. rudbeckiae** (Fitch) (*Siph. rudbeckiae* Fitch).
113. **M. solidaginis** (Fabricius) (*Siph. solidaginis* Fabricius).

" Siphonophora solidaginis Fabr. No. 154. On Solidago, Ashland, Oct. 10, 1890."

There are two winged and several pupae on this slide. Another slide examined, which bears the same data as the first but is numbered " 155," contains two winged, one wingless female, and several pupae. The wingless female is in poor condition. All of the winged individuals are apparently males.

Winged male: Antennal segment III bears 44 to 56 rather small but distinct, irregularly placed, circular sensoria; IV with 13 to 20 circular sensoria, sometimes more or less in a row but usually irregularly placed; V with 15 to 18 circular sensoria somewhat irregularly placed; end of VI base with a single sensorium surrounded by several smaller ones; average

lengths of segments: I, 0.114; II, 0.065; III, 0.83; IV, 0.609; V, 0.51; VI, base, 0.14; VI, filament, 0.88; total length, 3.148 mm. Wing venation as shown in figure 110. Distal fourth of the cornicles plainly reticulated; length 0.40 mm. Length of style, 0.23 mm.

Camera lucida drawings of the head, antenna, wing, cornicle, and style of the winged male and the antenna of the wingless viviparous female are given on Plate VII, figs. 109 to 113.

114. **M. verbenae** (Thomas) (*Siph. verbenae* Thomas).

"Siphonophora verbenae Thos. No. 156. On Verbena, Greenhouse, Lincoln, Jan. 12, 1891."

One winged, three wingless adults (two viviparous and one oviparous), and two immature on slide.

Winged viviparous female: Antennae reaching a little beyond tip of style; segment III with 16 circular sensoria in a row; lengths of segments as follows:

III	IV	V	VI base	VI filament
0.765	0.66	0.64	0.165	0.957 mm
0.765	0.71	0.65	0.157	1.017 mm

One wing has the media (third discoidal) only once branched, the other wing has M_1 arising midway between the point where M_{2+3} branches and the tip of the wing. Cornicles slender, reticulated at distal end, and reaching a little beyond the end of abdomen but not quite to tip of style.

Wingless viviparous female: Antennae longer than body; segment III bearing 3 to 6 circular sensoria in a row on the basal third; measurements as follows:

III	IV	V	VI base	VI filament
0.80	0.59	0.49	0.156	0.90 mm
0.78	0.55	0.52	0.156	0.88 mm

Cornicles slender, reticulated at tip, and reaching beyond tip of body but not quite to end of style.

Wingless oviparous female: Antennal segment III with 9 to 14 circular sensoria in a row; measurements of segments are:

III	IV	V	VI base	VI filament
0.74	0.61	0.57	0.164	— mm
0.76	0.61	0.59	0.164	0.92 mm

Cornicles as in other forms. Basal two thirds of the hind tibia swollen and bearing many small circular sensoria.

115. **Myzus persicae** (Sulzer) (*Phorodon cynoglossi* Williams).

"Phorodon cynoglossi n. sp. No. 157. On Forget-me-not (Cynoglossum), Greenhouse, Lincoln, Jan. 5, 1891."

One winged viviparous female and several wingless on the slide. This is most certainly *Myzus persicae* (=*Rhop. dianthi*). *Camera lucida* drawings of the head and antenna of the winged female given in Plate VIII, fig. 128.

116. **Rhopalosiphum monardae** (Williams) (*Phorodon monardae* Williams).

"Phorodon monardae n. sp. Type No. 160. On Monarda fistulosa, Ashland, May 24, '90."

One winged and several wingless, apparently all immature, on this slide. This species was designated as a new species in the manuscript of Mr. Williams, but, probably by oversight, it was not described. The following notes are taken from the single winged female on the type slide, the only known existing specimen.

Antennae longer than the body; segment III with 7 to 10 sensoria, more or less in a row, segments V and VI base with the usual distal ones. Measurements of segments as follows:

I	II	III	IV	V	VI base	VI filament
0.08	0.057	0.424	0.35	0.34	0.114	0.43 mm
—	—	0.424	0.34	0.32	0.130	0.44 mm

Length of wings, 2.0 mm; width, 0.95 mm; length of body, 1.45 mm; width, 0.65 mm; cornicles, 0.31 mm; style, 0.13 mm (appears to be slightly shrunken); hind tarsus, 0.08 mm.

In the balsam specimen the antennae appear to have been black, excepting the extreme base of III and all of I and II. Cornicles were probably concolorous with the body and dusky at tip. Wing veins dark brown and very conspicuous. *Camera lucida* drawings of the head, antenna, wing and cornicle of the winged viviparous female are given in Plate VIII, figs. 129 to 131.

117. **Microsiphum canadensis** (Williams) (*Cryptosiphum canadensis* Williams).

"Cryptosiphum canadensis n. sp. No. 162. On Artemisia ludoviciana, Fremont, July 31, '90."

Only wingless females on slide. Beak long, reaching to the coxae of the third pair of legs. Antennal segment III bearing 4 to 9 rather large but inconspicuous circular sensoria, more or less in a row, and usually on the basal two thirds of the segment. Measurements of the segments as follows:

III	IV	V	VI base	VI filament
0.42	0.32	0.266	0.106	0.65 mm
0.44	0.346	0.29	0.106	0.70 mm
0.44	0.32	0.28	0.115	0.64 mm
0.426	0.337	0.29	0.115	0.69 mm

Cornicles very small and *Chaitophorus*-like; length, 0.0355 mm, width at apex about equal to length, width at base, 0.053 mm.

Another slide bearing this species is labeled "Cryptosiphum canadensis n. sp. No. 161. On Artemisia canadensis, War Bonnet, 6/24, '90."

Camera lucida drawings of the head, antenna and cornicle shown on Plate I, figs. 10 and 11.

EXPLANATION OF PLATES

Pemphigus alnifoliae Williams, Pl. I, figs. 1, wing; 2, antenna, of winged viviparous female.

P. balsamifera Williams, Pl. I, figs, 3, fore and hind wing; *a*, branching of veins of hind wing in some specimens; 4, antenna, of winged viviparous female.

Lachnus ponderosa Williams, Pl. I, figs. 5, head and antenna; 6, hind tarsus; 7, cornicle; 8, wing, of winged viviparous female; 9, antenna of wingless viviparous female.

Microsiphum canadensis Williams, Pl. I, figs. 10, head and antenna; 11, cornicle, of wingless viviparous female.

Chaitophorus bruneri Williams, Pl. II, figs. 12, head and antenna; 13, style; 14, cornicle, of wingless viviparous female.

Ch. viminalis Monell (*salicti* Schrank-Williams), Pl. II, figs. 15, antenna of wingless viviparous female; 16, antenna; 17, cornicle; 18, style, of winged male; 19, hind tibia; 20, cornicle, of wingless oviparous female.

Melanoxantherium bicolor Oestlund, Pl. II, fig. 21, cornicle of wingless viviparous female.

Mel. smithae Monell, Pl. II, fig. 22, cornicle of wingless oviparous female.

Aphis artemisicola Williams, Pl. II, figs. 23, head and antenna; 24, cornicle; 25, style, of wingless viviparous female.

A. canae Williams, Pl. II, figs. 26, head and antenna; 27, cornicle; 28, style, of winged viviparous female (*a* = where tip of antenna is broken off); 29, antenna; 30, cornicle, of an immature *Aphis* on the same slide.

A. cnici Williams, Pls. II and III, figs. 31, head; 32, antenna; 33, cornicle; 34, tip of cornicle; 35, dorsal abdominal tubercle; 36, style; 37, and wing, of winged viviparous female.

A. frangulae Kaltenbach, Pl. III, figs. 38, antenna; 39, cornicle; 40, style, of wingless viviparous female.

A. impatientis Thomas, Pl. III, figs. 42, head and antenna; 43, wing; 44, cornicle; 45, style, of winged viviparous female.

A. gossypii Glover (*lilicola* Williams), Pl. III, figs. 46, antenna; 47, wing; 48, cornicle; 49, style, of winged viviparous female; 50, antenna of wingless viviparous female.

A. lonicericola Williams, Pl. III, figs. 51, antenna; 52, cornicle; 53, style, of wingless viviparous female.

A. lugentis Williams, Pl. III, figs. 54, head and antenna; 55, hind tibia; 56, cornicle; 57, style, of winged viviparous female; 58, antenna of wingless viviparous female.

A. gossypii Glover (*malvae* Williams nec Walker), Pls. III and IV, figs. 59, wing; 60, cornicle; 61, style; 62, antenna, of winged viviparous female.

A. pentstemonis Williams, Pl. IV, figs. 63, head and antenna; 64, cornicle; 65, style, of winged viviparous female; 66, antenna of male (?).

A. saniculae Williams, Pl. IV, figs. 67, head and antenna; 68, wing; 69, cornicle; and 70, style, of winged viviparous female.

A. senecionis Williams, Pl. IV, figs. 71, antenna; 72, wing; 73, cornicle; 74, style, of winged viviparous female; 75, antenna of wingless viviparous female.

A. solidaginifoliae Williams, Pl. IV, figs. 76, antenna; 77, hind tibia; 78, cornicle; 79, style, of wingless oviparous female.

A. yuccae Cowan (*yucciola* Williams), Pl V, figs. 80, antenna; 81, wing; 82, cornicle; 83, style, of winged viviparous female.

Macrosiphum artemisicola Williams, Pl. V, figs. 84, antenna; 85, capitate spines on head, and 86, on abdomen; 87, cornicles; 88, style, of wingless viviparous female.

M. carnosa Buckton var. *impatientis* Williams, Pl. V, figs. 89, antenna; and 90, style of wingless viviparous female.

M. fulvae Oestlund, Pl. V, figs. 91, head and antenna; 92, cornicle; 93, style, of winged viviparous female; 94, antenna of wingless viviparous female.

M. gaurae Williams, Pl. V, fig. 95, cornicle and style, and tip of cornicle enlarged of wingless viviparous female; fig. 96, Pl. VI, is the head and antenna of the wingless viviparous female on the slide labeled by Williams as No. 141, *gaurina* n. sp.

M. grindeliae Williams, Pl. VI, figs. 97, head and antenna; 98, cornicle;

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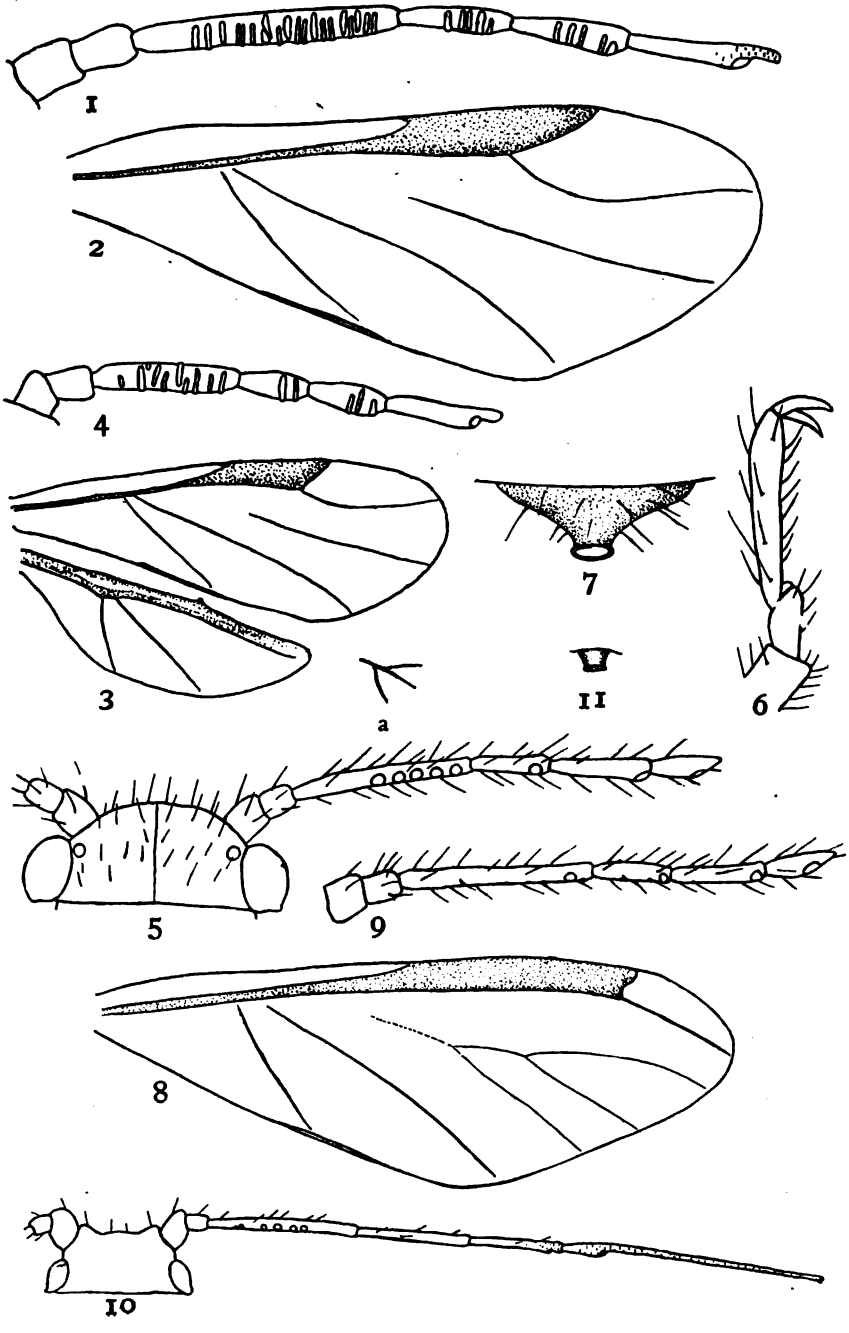

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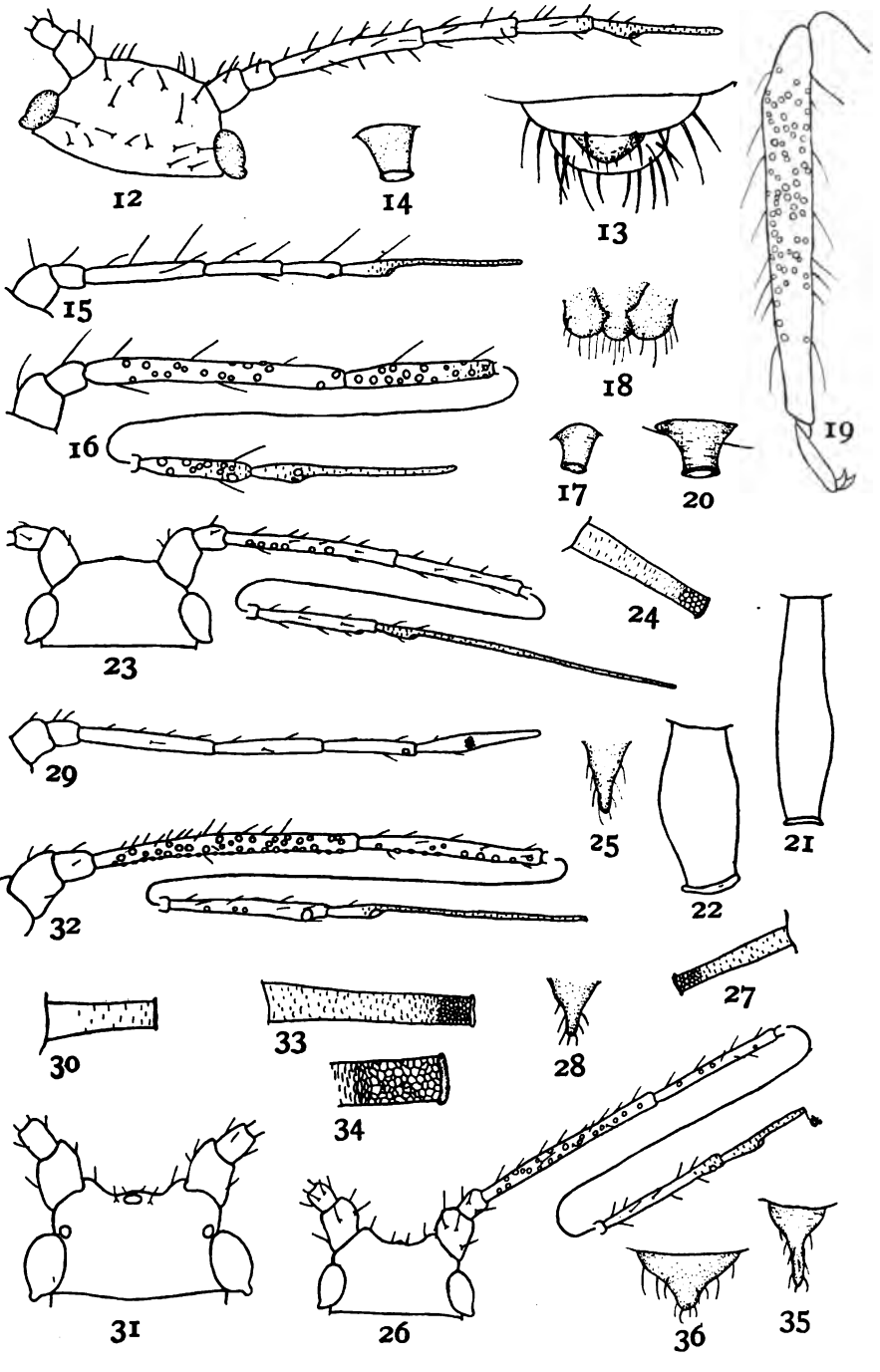
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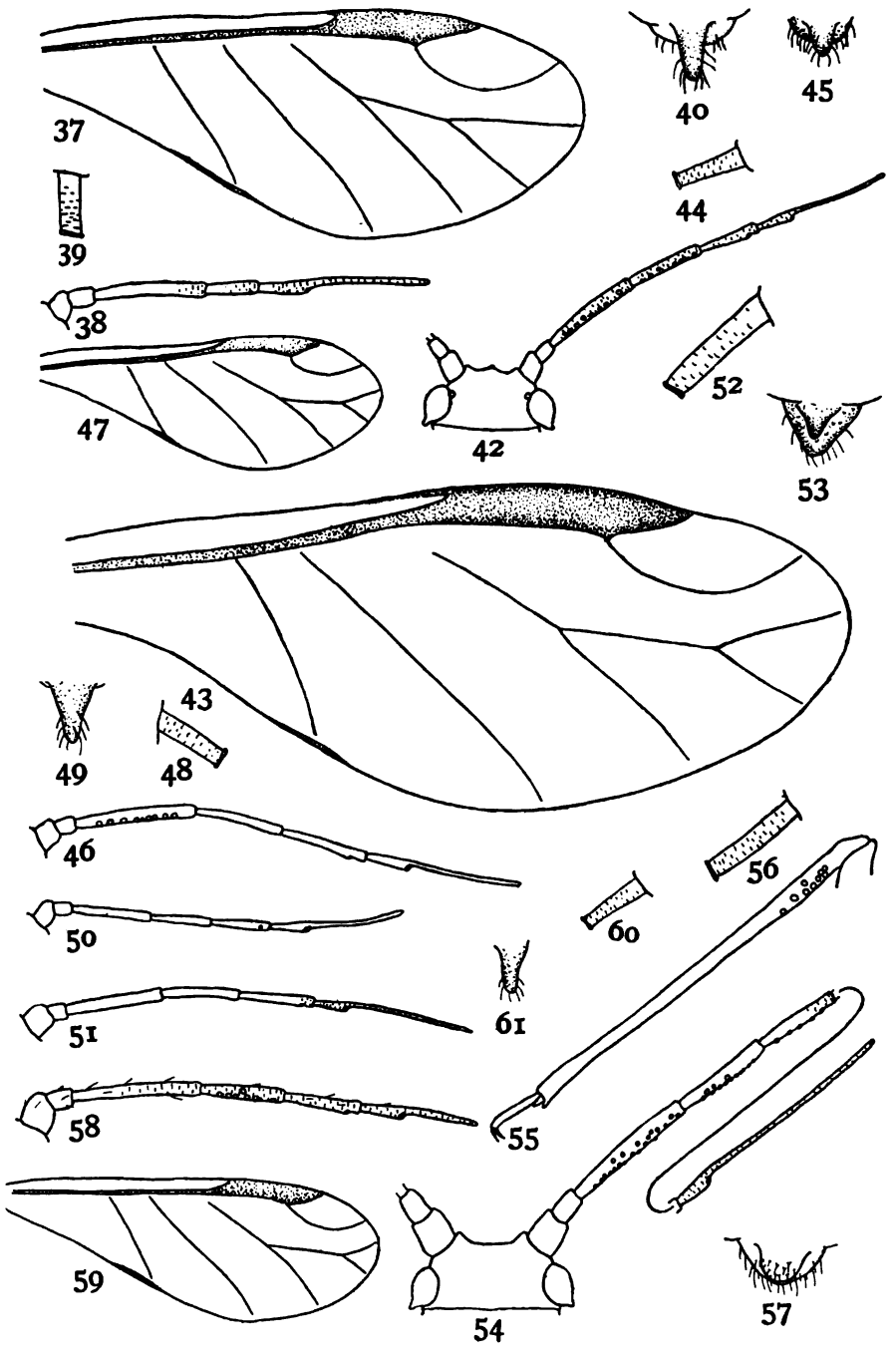

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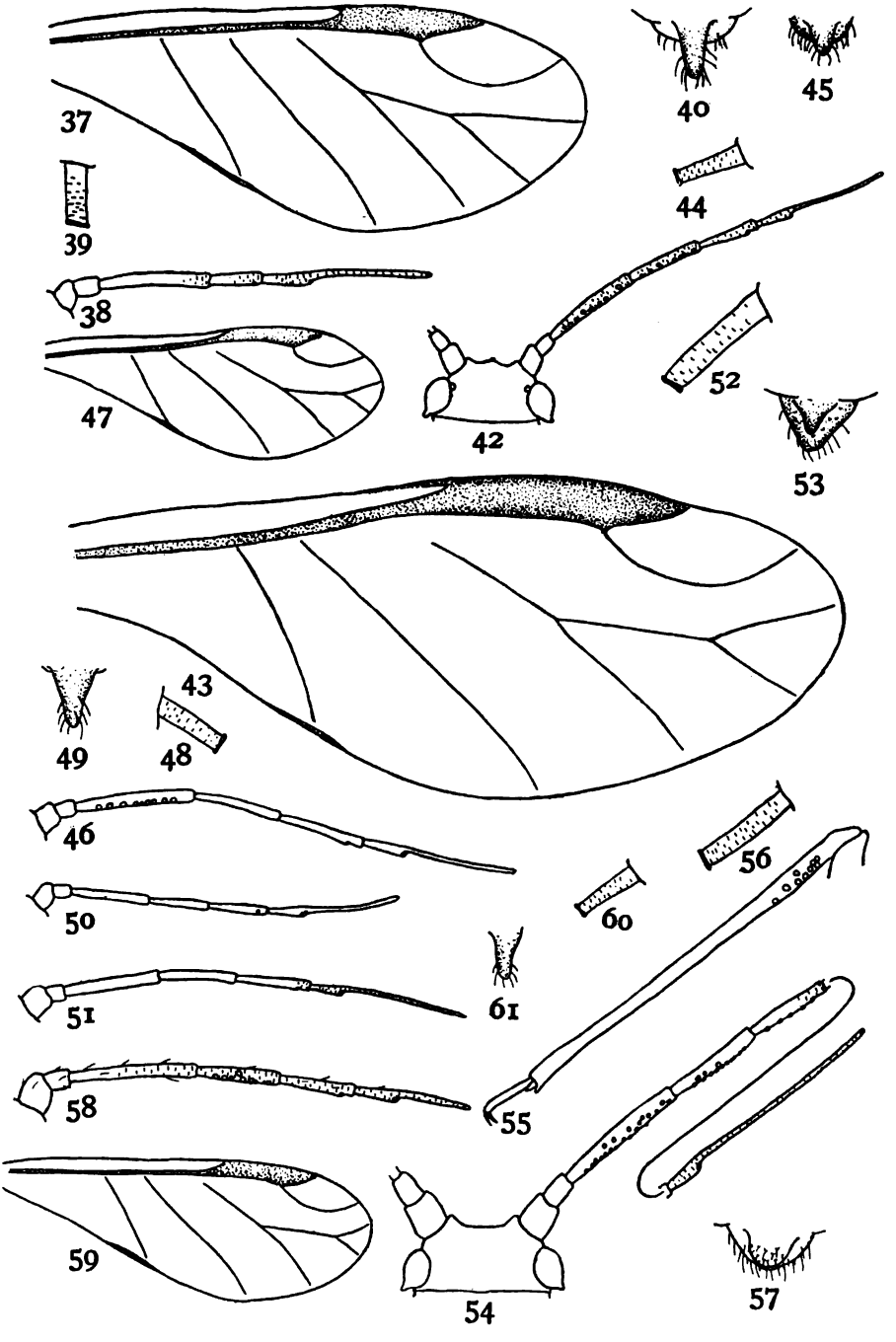

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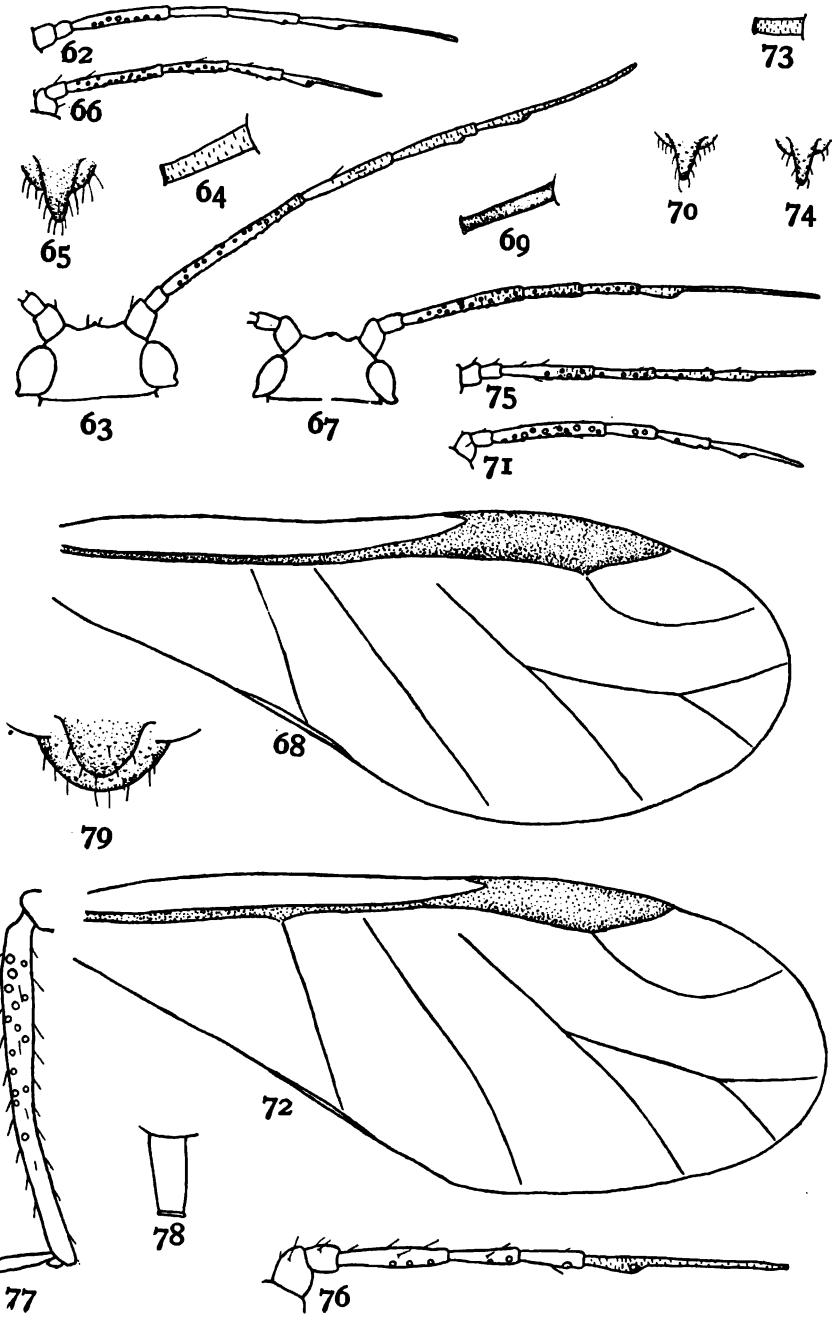

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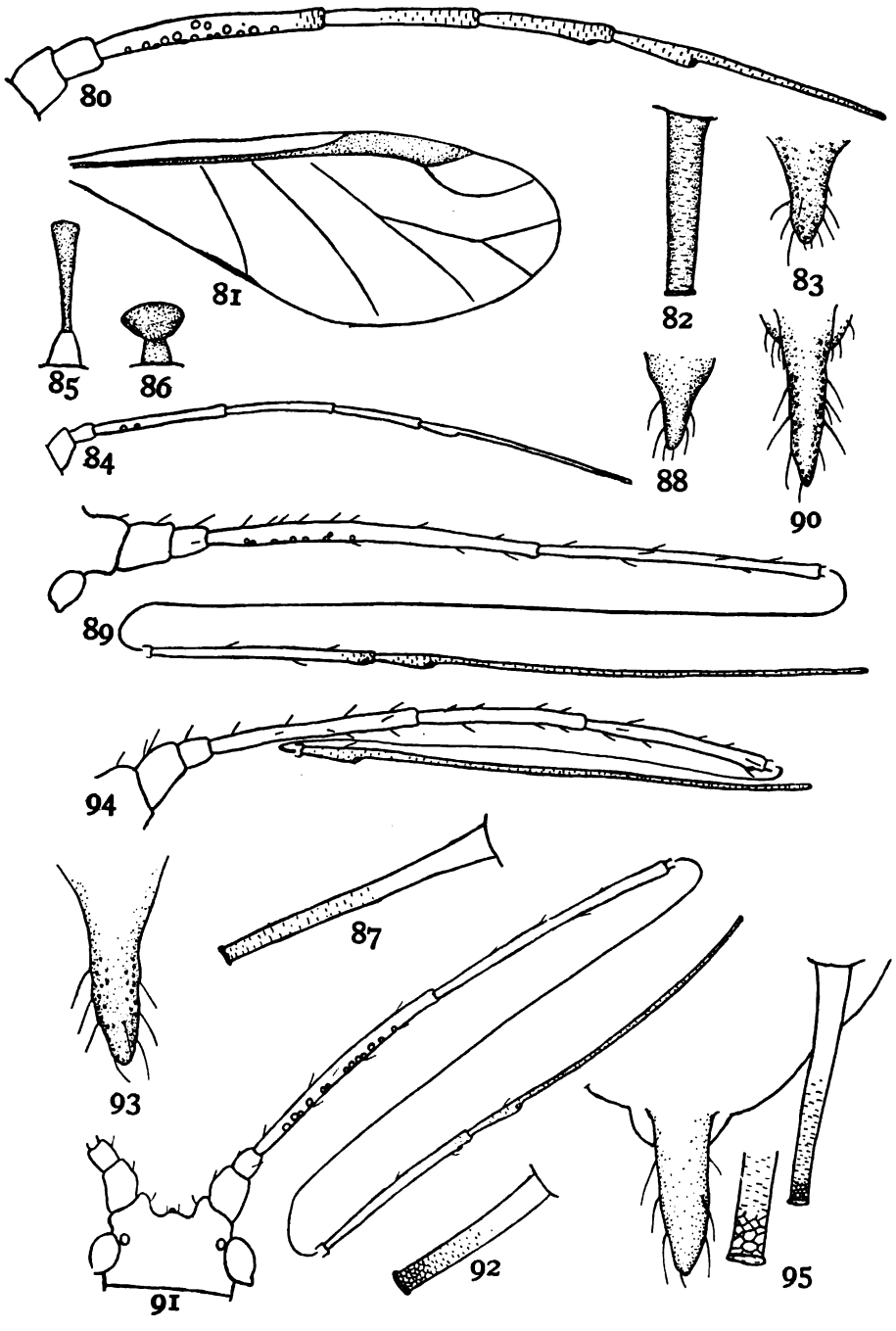

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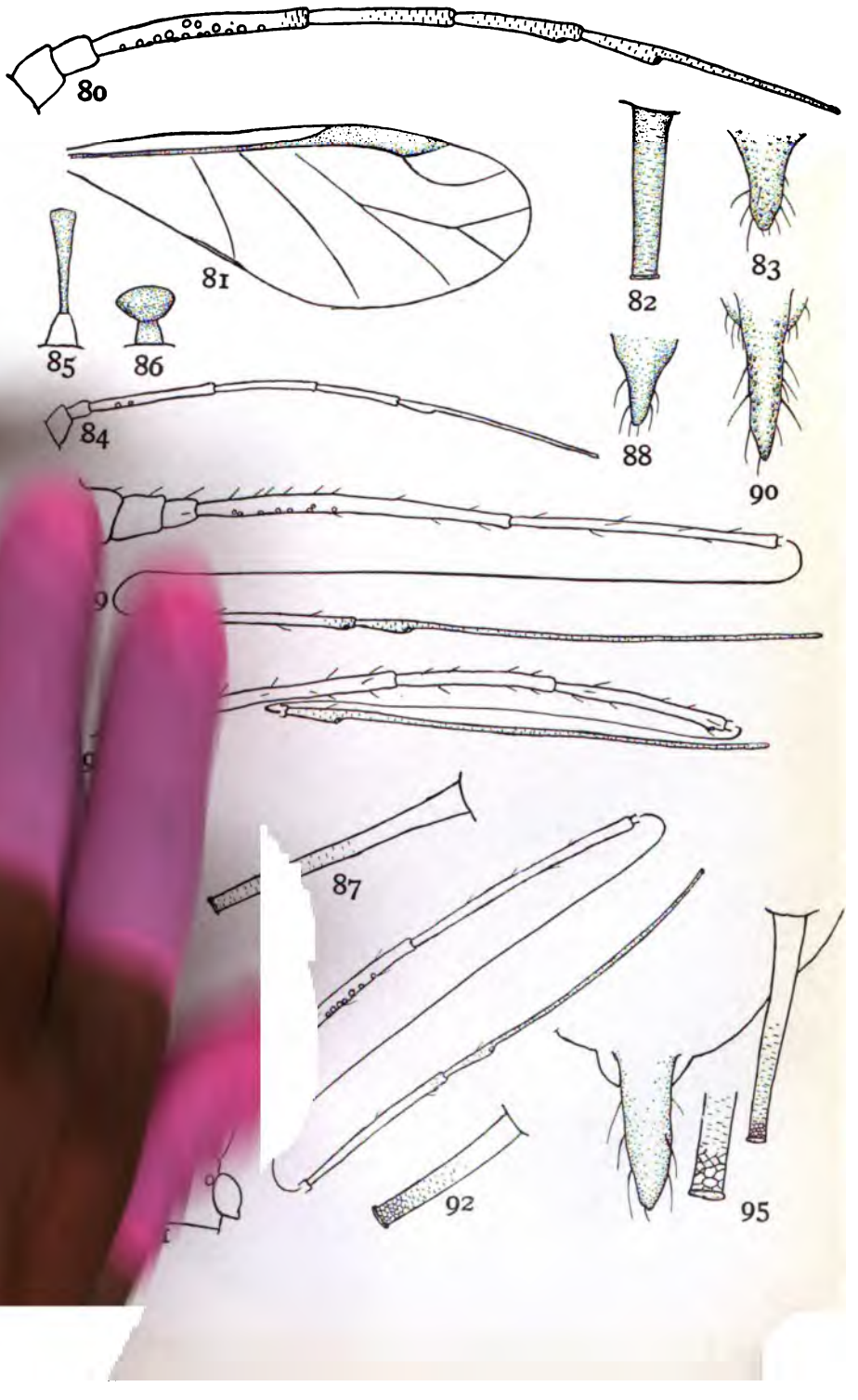

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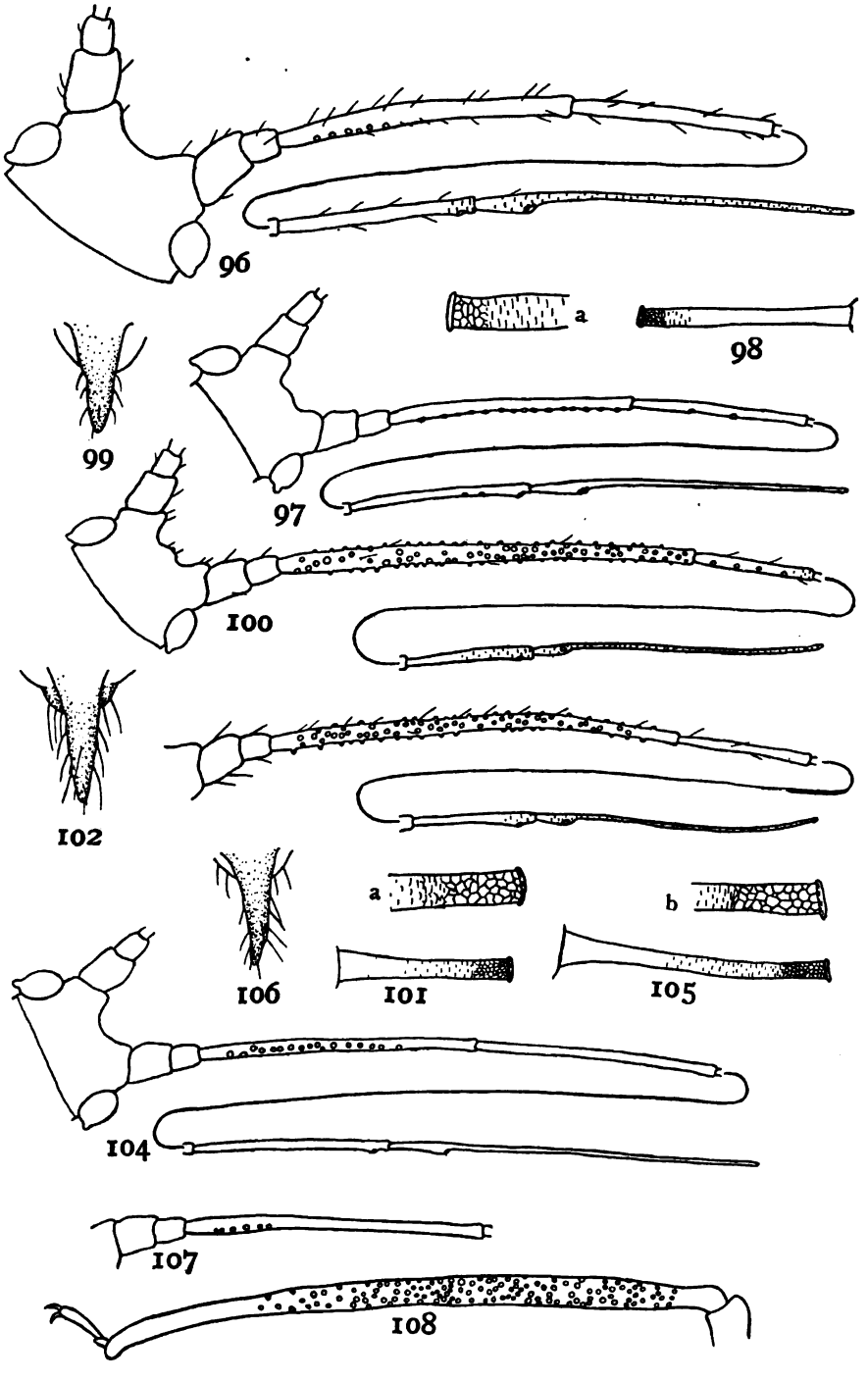

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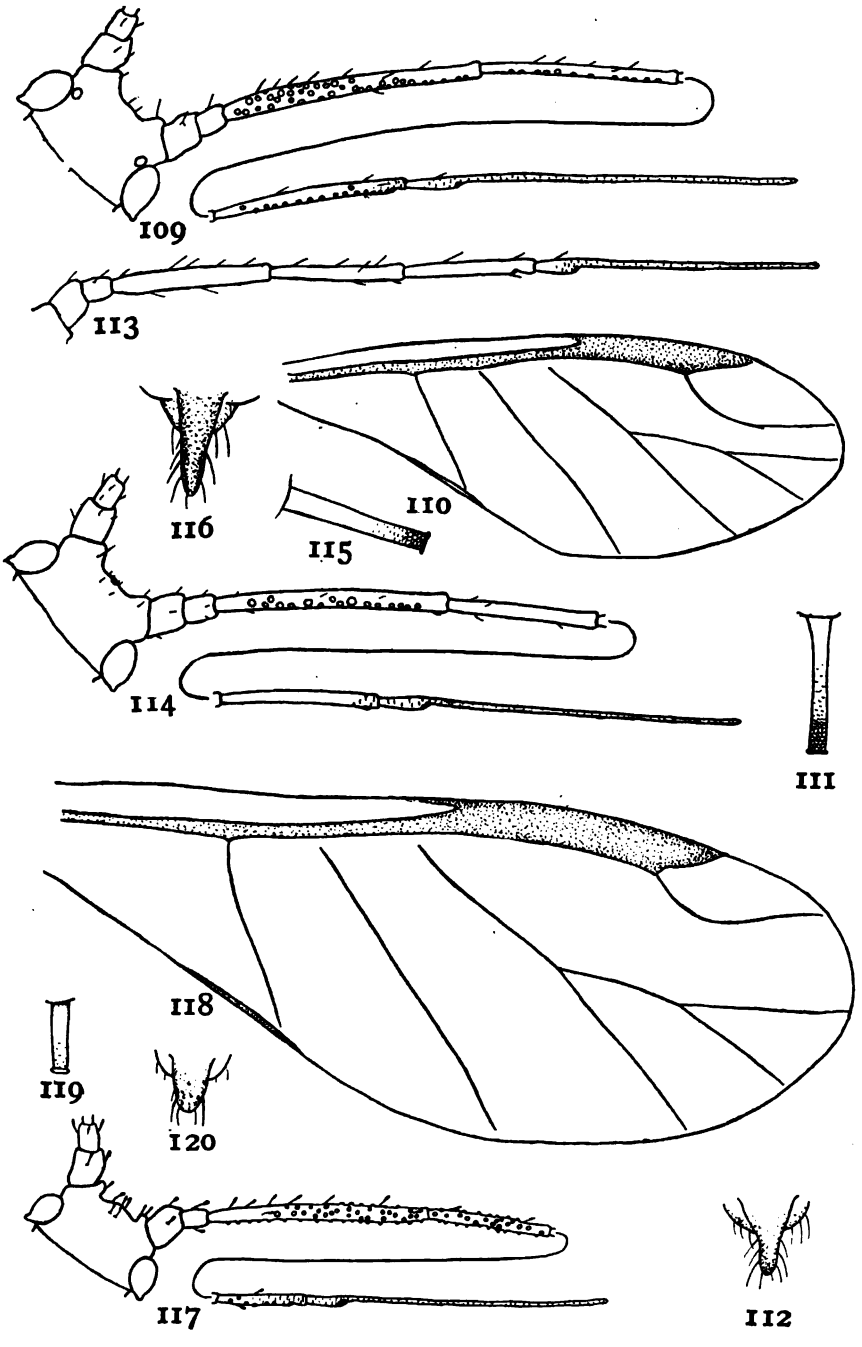

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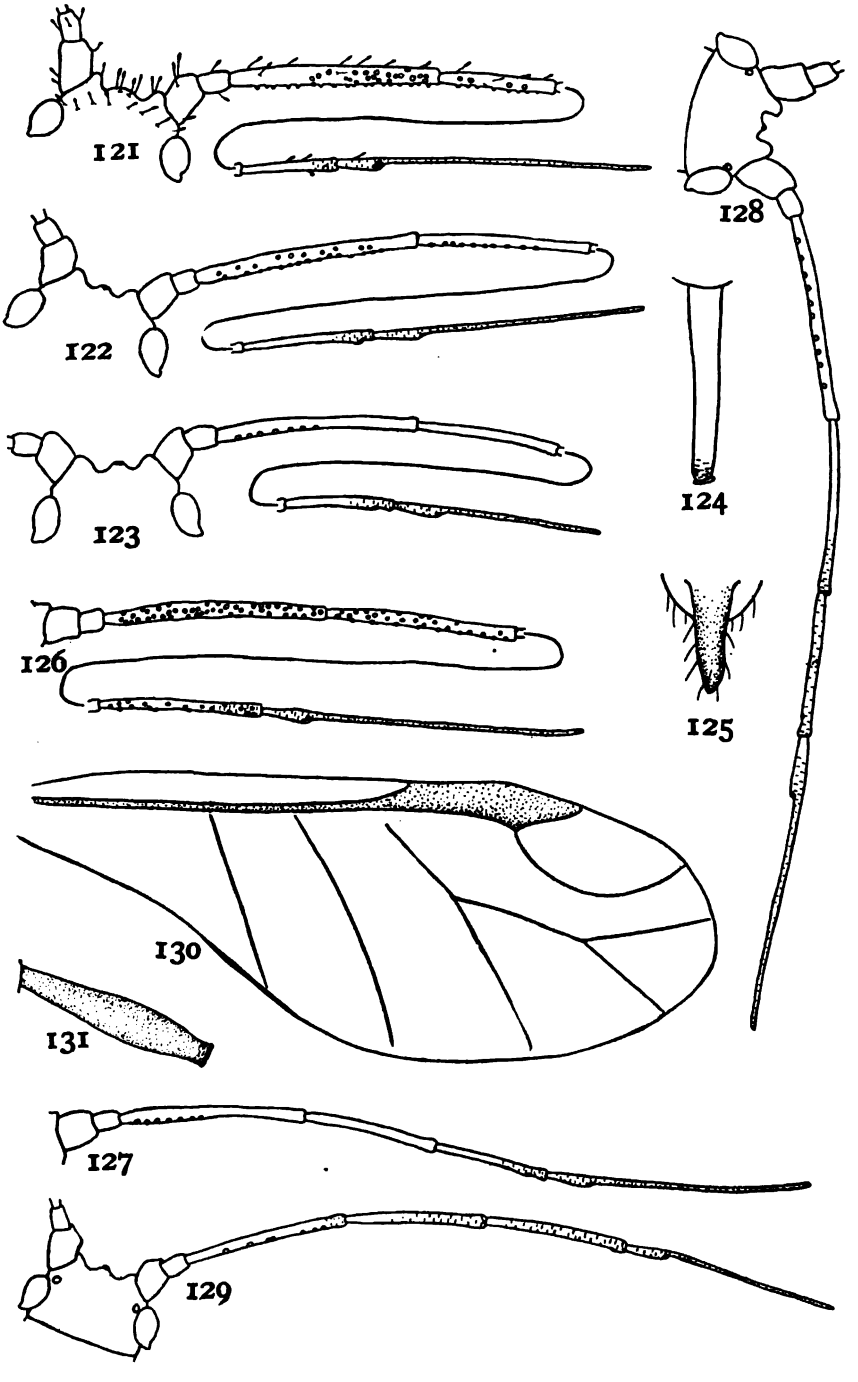

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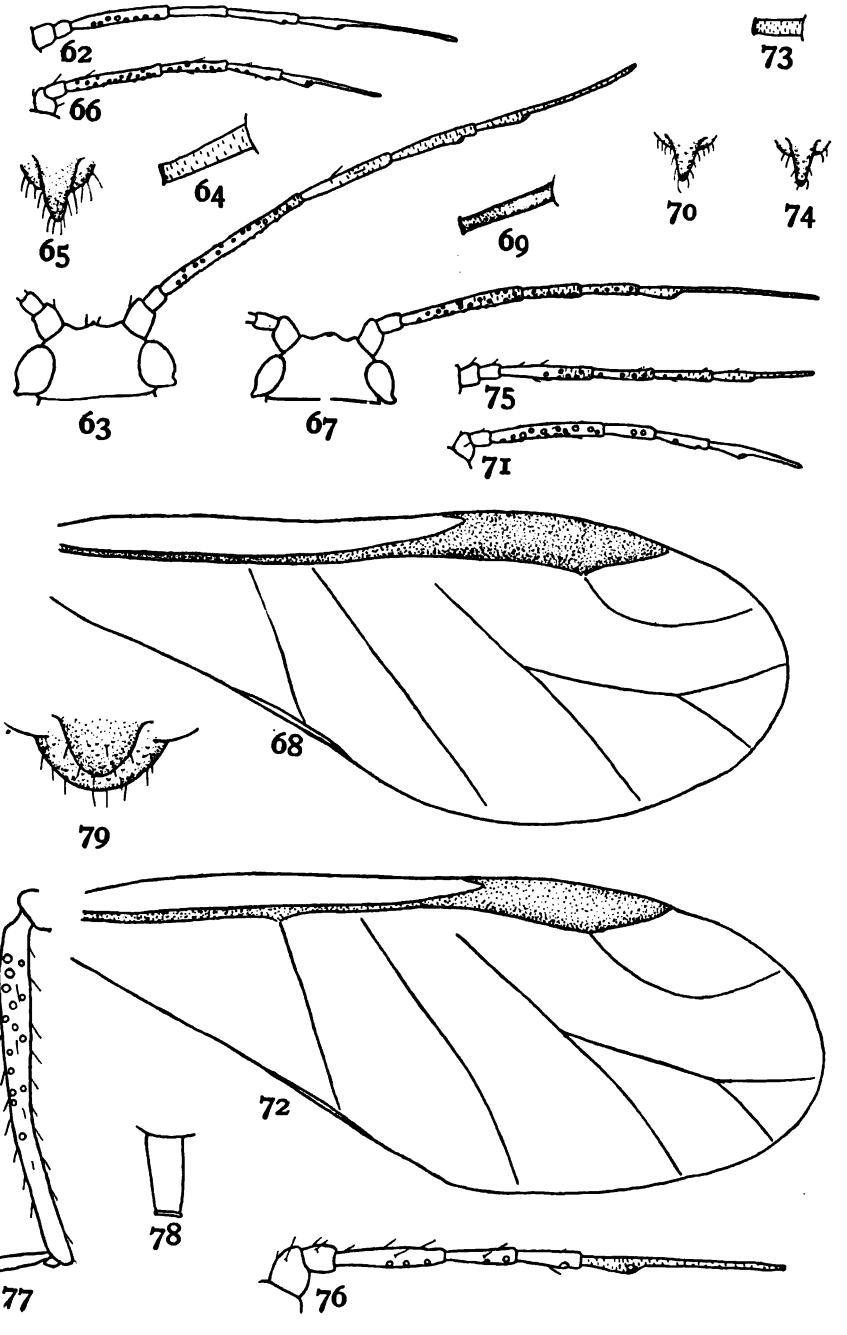

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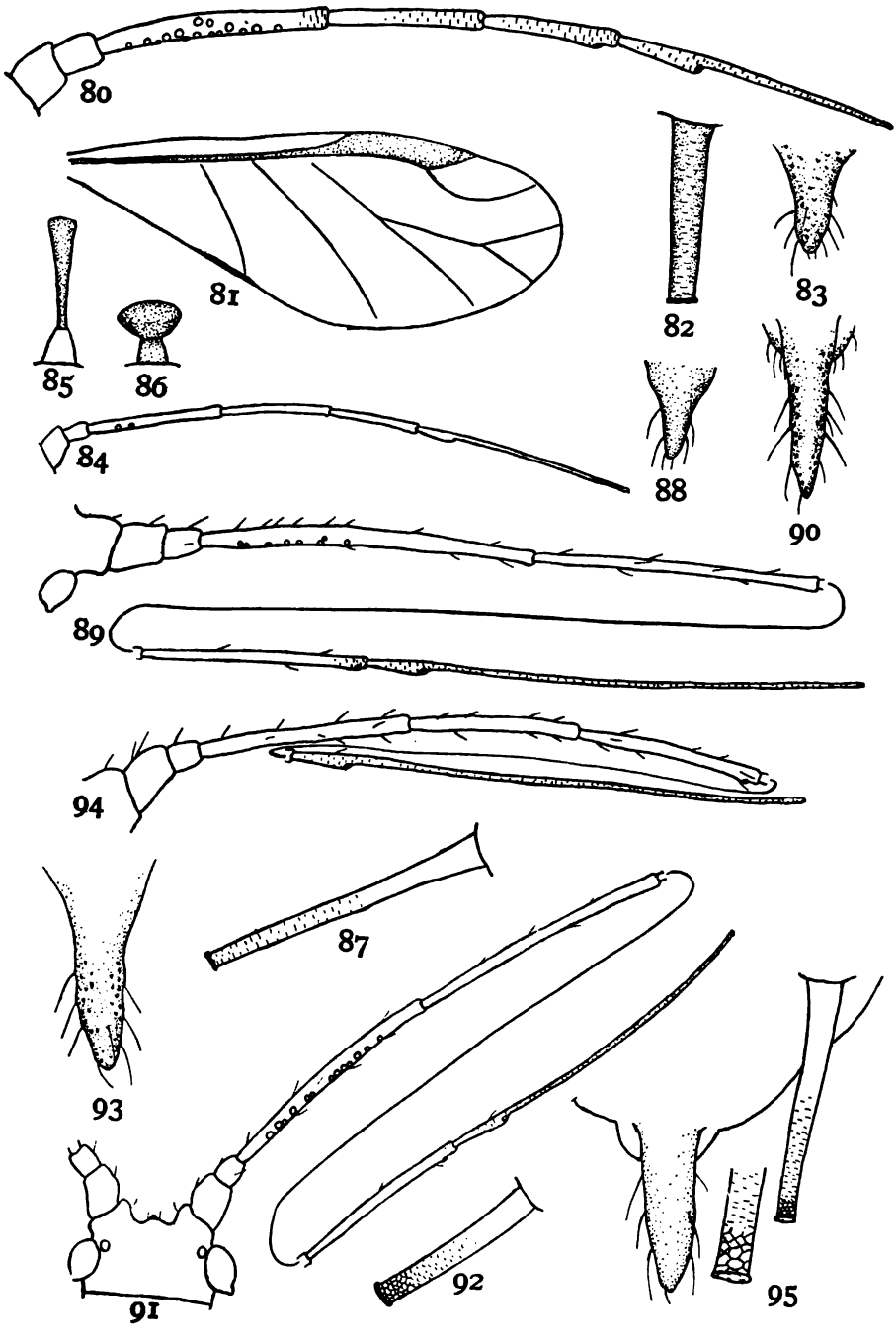

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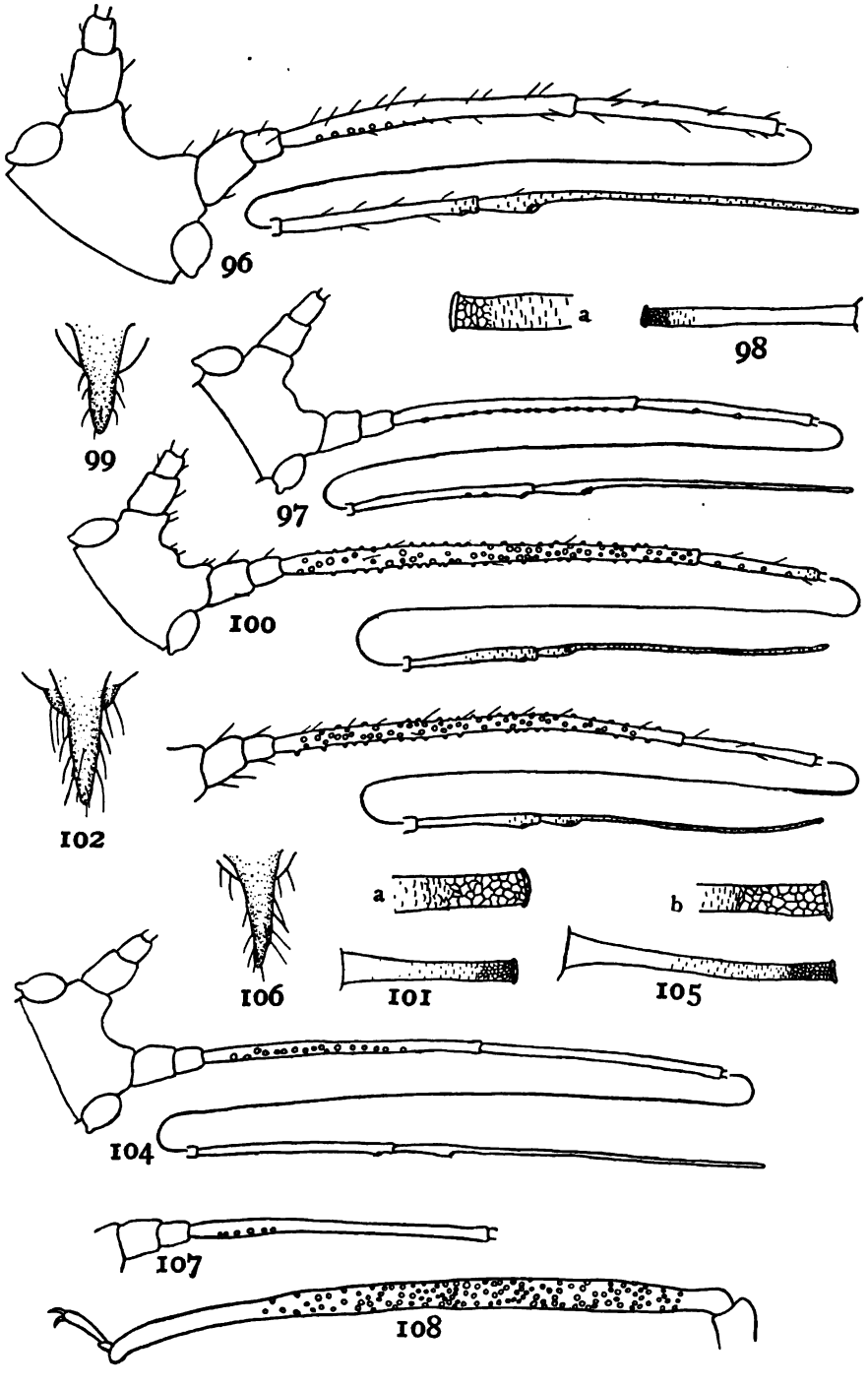

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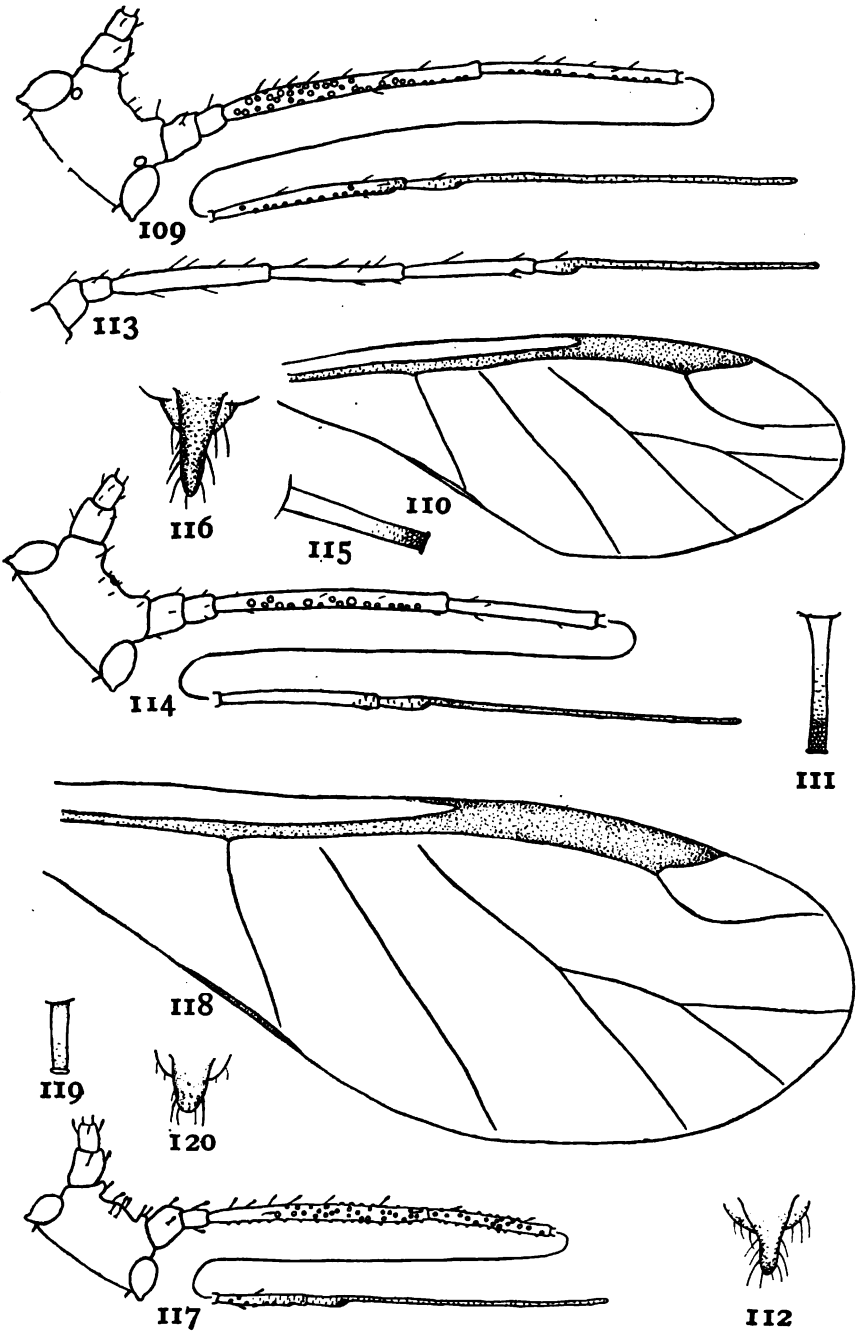

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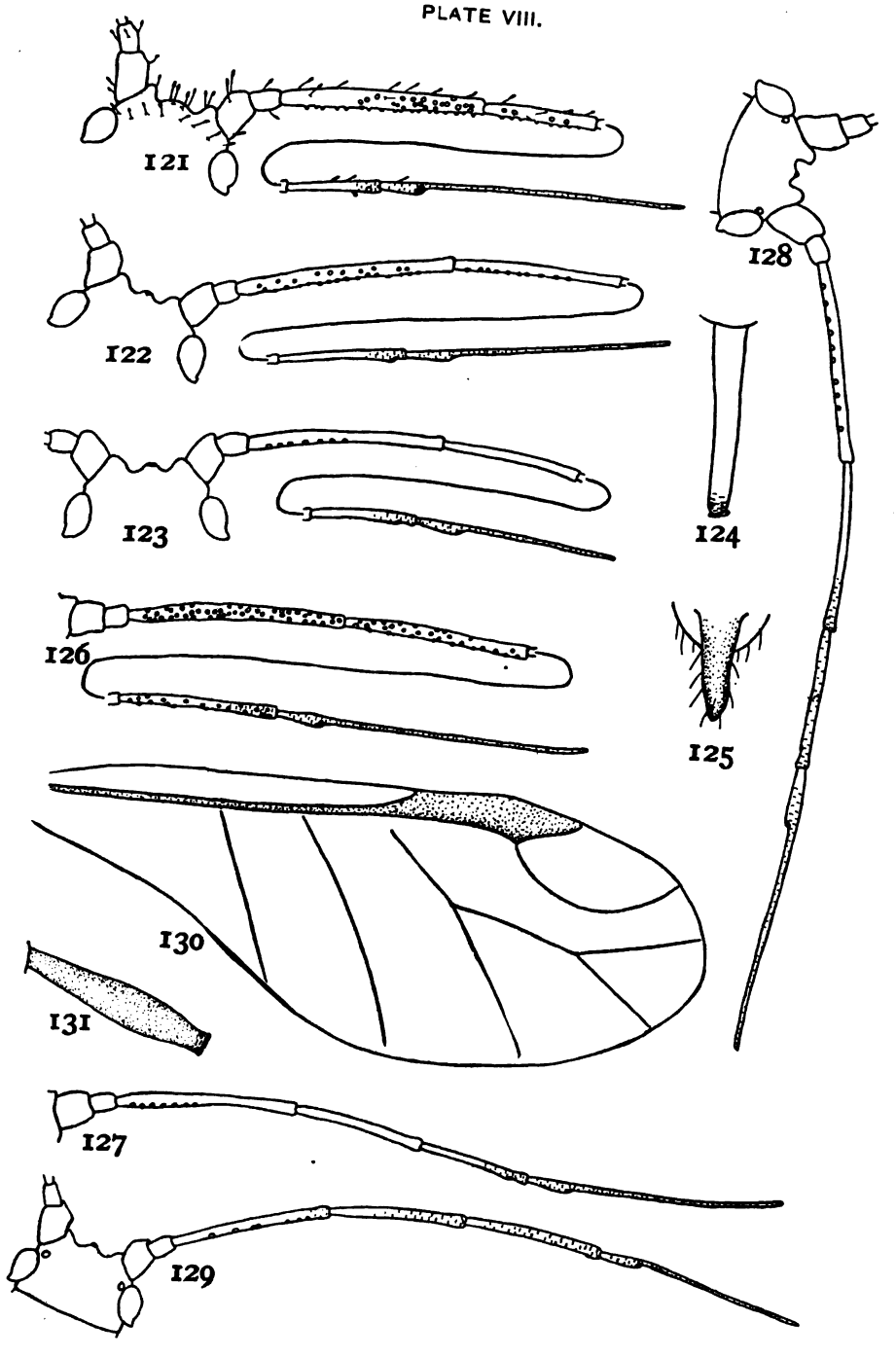

98*a*, tip of cornicle greatly enlarged; 99, style, of winged viviparous female.

M. muralis Buckton, Pl. VI, figs. 100, head and antenna; 101, cornicle; 101*a*, tip of cornicle greatly enlarged; 102, style, of winged viviparous female; 103, antenna of wingless viviparous female.

M. pelargonii Kaltenbach ?, Pl. VI, figs. 104, head and antenna; 105, cornicle; 105*a*, tip of cornicle greatly enlarged; 106, style, of winged viviparous female; 107, antennal segment III; 108, hind tibia, of wingless oviparous female. These drawings were made from specimens on slide No. 148.

M. solidaginis Fabricius, Pl. VII, figs. 109, head and antenna; 110, wing; 111, cornicle; 112, style, of winged male; 113, antenna of wingless viviparous female.

M. oenotherae Williams, Pl. VII, figs. 114, head and antenna; 115, cornicle; 116, style, of winged viviparous female.

Myzus potentillae Williams, Pls. VII and VIII, figs. 117, head and antenna; 118, wing; 119, cornicle; 120, style, of winged viviparous female; 121, head and antenna of wingless viviparous female.

Macrosiphum purpurascens Oestlund (*Myzus thalictri* Williams), Pl. VIII, figs. 122, head and antenna of winged viviparous female; 123, head and antenna; 124, cornicle; 125, style, of wingless viviparous female; 126, antenna of winged male; 127, antenna of wingless oviparous female.

Myzus persicae Sulzer (*Phorodon cynoglossi* Williams), Pl. VIII, fig. 128, head and antenna of winged viviparous female.

Rhopalosiphum monardae Williams, Pl. VIII, figs. 129, head and antennae; 130, wing; 131, cornicle, of winged viviparous female.

All drawings made by the aid of an Abbe *camera lucida*, using the following objectives and eyepieces:

Two-inch eyepiece and one and one half objective: Figs. 1, 3, 8, 37, 47, 59, 81, 130.

One-inch eyepiece and two thirds objective: Figs. 2, 4, 6, 34, 80, 82, 83, 131.

Two-inch eyepiece and two thirds objective: Figs. 5, 7, 9, 12, 13, 14, 31, 32, 33, 35, 36, 46, 48, 49, 50, 60, 61, 62, 94, 95, 96, 110, 128, 129.

Two-inch eyepiece and 16 mm objective: Figs. 10, 24, 25, 26, 42, 43, 44, 45, 51, 54, 55, 56, 57, 58, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 84, 89, 90, 91, 92, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127.

One-inch eyepiece and 16 mm objective: Figs. 11, 15, 16, 17, 18, 19, 20, 21, 22, 29, 30, 38, 39, 40, 52, 53, 76, 77, 78, 79, 87, 88, 93, 98*a*, 101*a*, 105*a*.

One-inch eyepiece and 4 mm objective: Figs. 85, 86.

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LINCOLN, NEBRASKA

UNIVERSITY STUDIES

VOL. XI OCTOBER 1911 No. 4

THE NARRATIVE IN THE EIGHTH BOOK OF THE "GALLIC WAR," CHAPTERS 50–55; A STUDY IN CHRONOLOGY

BY FREDERICK WARREN SANFORD

I

The dispute between Caesar and the senate, the absorbing topic in Roman political circles in the year 50 B.C., while possessed of legal and constitutional aspects, was in large measure a political question. It is therefore necessary, in order to understand the dispute clearly and to see how it culminated in civil war, to establish the order of events with the greatest accuracy possible. In consequence much laborious research has been devoted to the chronology of the years 51, 50, and early 49. My purpose in this paper is to determine, more accurately than seems to me to have been done before, the chronology of certain related events of the year 50. The topics considered will be: (1) the order and dates of events recorded by Hirtius, *B.G.*, VIII, 50–55, in particular the movements of Caesar and his legions, (2) the date of the election of M. Antonius to the augurate, (3) the date of *Fam.* VIII, 14, the letter in which Caelius Rufus reports Antonius's victory to Cicero, (4) the date at which the consul Marcellus authorized Pompeius to assume command of the two legions taken from Caesar and to defend the state.

Hirtius's narrative of the movements of Caesar and his legions in the year 50 begins with an account of Caesar's first journey to

Italy (*c.* 50), in the course of which he received news of Antonius's election as augur (§ 3). Hirtius represents this journey as undertaken for the purpose of inducing the voters of Cisalpine Gaul to attend the augural election and to support Antonius. Caesar's evident interest in Antonius's candidacy renders it all but certain that he was informed of the result of the election as soon as practicable. The close time relation between the election and Caesar's journey is obvious. The attempt will first be made to discover the date at which Antonius defeated L. Domitius for the place in the college of augurs left vacant through the death of Hortensius[1] and, in inevitable connection therewith, the date of *Fam.* VIII, 14.

It will be profitable at the outset to summarize the argument for what may be fairly termed the current view, which fixes the election and the letter in the latter part of September. The fullest elaboration of this view is due to H. Nissen[2] and W. Sternkopf.[3] Their argument is substantially as follows:

In the opening sentence of *B.G.*, VIII, 50, Hirtius writes: *Ipse hibernis peractis contra consuetudinem in Italiam quam maximis itineribus est profectus, ut municipia et colonias appellaret, quibus M. Antonii, quaestoris sui, commendaverat sacerdotii petitionem.* The phrase *hibernis peractis,* by which Hirtius indicates the season in which Caesar came to Italy, means, so Nissen asserts,[4] "after inspection of the winter quarters"—in which Caesar's legions spent the entire summer of 50—not, as Drumann[5] and Lange[6] understood it, "at the end of winter."

In *Fam.* VIII, 14, 4, Caelius suggests that civil war may be averted by sending Caesar or Pompeius to fight the Parthians: *Si alter uter eorum ad Parthicum bellum non eat, video magnas impendere discordias, quas ferrum et vis iudicabit.* Lange thought

[1] Bardt, *Die Priester der vier grossen Collegien aus römisch-republikanischer Zeit,* p. 25. Berlin, 1871.

[2] "Der Ausbruch des Bürgerkriegs 49 v. Chr.," II, *Historische Zeitschrift,* 46 (1881), pp. 48–105. This second part alone is referred to in this paper.

[3] *Quaestiones Chronologicae.* Diss., Marburg, 1884.

[4] Ausbr., p. 67, 4; *Quaest.,* p. 28.

[5] *Gesch. Roms,* III, pp. 103, 391.

[6] *Röm. Alt.,* III², p. 398.

that Caelius must have written these words in June or July, at a time when the fact of the Parthians' withdrawal within their own territories in the summer of 50 was as yet unknown in Rome.[7] But the point was not well taken, Nissen observes, since Rome might rightly be regarded as on a continuous war footing with the Parthians, until the death of Crassus should be avenged.[8]

A debate on pay for Pompeius's troops occurred in the senate in 51, July 22.[9] When the same question came up in 50, a decree was stopped by Curio's veto, the withdrawal of which is noticed in *Fam.* VIII, 14, 4: *Curio noster sapienter id, quod remisit de stipendio Pompei, fecisse existimatur.* Nissen[10] and Sternkopf,[11] proceeding on the assumption that the debate in 50 occurred at the same time, or nearly so, as in 51, argue that *Fam.* VIII, 14, must then have been written later than June or the beginning of July, the period within which Lange placed it.

Lange[12] fixed the election of Appius Claudius and L. Piso to the censorship in 50 early in May, basing his conclusion on Cicero's allusions to Appius's candidacy in *Fam.* III, 10, 3, 11; 11, 1, 5; 13, 2. A more careful consideration of these passages, Sternkopf[13] thinks, together with the fact that no reference to the election is made in *Fam.* III, 12 (written early in August and before *Fam.* III, 13), leads to the conclusion that the election was held in August; in that case *Fam.* VIII, 14, can not be dated in June or July, as it was evidently written after Appius had entered upon his censorial duties (*cf.* § 4): *Scis Appium censorem hic ostenta facere, de signis et tabulis, de agri modo, de aere alieno acerrime agere?*

According to Plutarch,[14] Antonius was first elected tribune,

[7] *Röm. Alt.*, III², p. 396, 5.
[8] *Ausbr.*, p. 69, 2; *Quaest.*, pp. 27–28.
[9] *Fam.* VIII, 4, 4.
[10] *Ausbr.*, p. 69, 2.
[11] *Quaest.*, p. 26.
[12] *Röm. Alt.*, III², p. 397.
[13] *Quaest.*, pp. 25–26. *Cf.* de Boor, *Fasti censorii*, p. 94, cited by Sternkopf.
[14] *Ant.* 5.

then augur. Drumann[15] and Lange[16] were wrong, in the opinion of Nissen[17] and Sternkopf,[18] in rejecting Plutarch's evidence, their error being due to their erroneous understanding of *B.G.*, VIII, 50, 1. The annual elections occurred in August,[19] since Cicero received news of them at Ephesus September 29.[20] Illegal methods employed to defeat Servius Galba, Caesar's candidate for the consulship, also point to an even numbered month, and so August, in which the younger consul, Marcellus, who was unfriendly to Caesar, would have the *fasces*.[21] *B.G.*, VIII, 50, 4, also proves, according to Nissen's inference,[22] that the civil elections were past when the augural contest came up.

Fam. VIII, 12, was written in September, during the *ludi circenses* or shortly after (*cf.* § 3): *Insolentissimi homines summis Circensibus ludis meis postulandum me lege Scantinia curant.* Nissen and Sternkopf accept the common emendation of the corrupt *ms.* reading in § 4: *Scis Domitio comitiorum diem timori esse. Te exspecto etc.* As these words set the augural election in the future, it follows that *Fam.* VIII, 14, was written later than *Fam.* VIII, 12.[23]

Sternkopf[24] finds further evidence to establish the relative dates of *Fam.* VIII, 12, and VIII, 14. In the course of a quarrel between Appius and Caelius, the former, in conjunction with Domitius, employed Servius Pola to institute criminal proceedings against Caelius for an alleged offense covered by the *lex Scantinia.* Caelius answered with the same charge against Appius, as we are told in *Fam.* VIII, 12, 3: *Vix hoc erat Pola elocutus, cum ego Appium censorem eadem lege postulavi. Quod melius caderet, nihil vidi; nam sic est a populo et non infimo quoque adprobatum,*

[15] *Gesch. Roms,* I, p. 68.
[16] *Röm. Alt.,* III², p. 399.
[17] Ausbr., pp. 68, 1; 67, 4.
[18] *Quaest.,* p. 28.
[19] Ausbr., p. 67, 4.
[20] *Att.* VI, 8, 1–2.
[21] Ausbr., p. 67, 4; *cf. B. G.,* VIII, 50, 4.
[22] Ausbr., p. 68, 1; *Quaest.,* p. 28.
[23] Ausbr., p. 68, 1; *Quaest.,* pp. 24, 27.
[24] *Quaest.,* pp. 24–25.

ut maiorem Appio dolorem fama quam postulatio attulerit. Sternkopf thinks there is a plain allusion to this incident in *Fam.* VIII, 14, 4: *Curre, per deos atque homines! et quam primum haec risum veni, legis Scantiniae iudicium apud Drusum fieri, Appium de tabulis et signis agere; crede mihi, est properandum.* The contrast between Appius's plight as defendant under the *lex Scantinia* and his moral fervor as censor, Sternkopf holds, would have been unintelligible to Cicero, if *Fam.* VIII, 12, had not preceded VIII, 14.

The date of *Fam.* VIII, 14, and the date of the augural election Nissen[25] and Sternkopf[26] seek to establish within close limits by the following argument. In *Att.* VI, 9, 5, written at Athens October 15, Cicero makes this request of Atticus: *Perscribes . . . de censoribus, maximeque de signis, tabulis quid fiat, referaturne.* Cicero's desire for information was evidently inspired by *Fam.* VIII, 14, 4: *Scis Appium censorem hic ostenta facere, de signis et tabulis, de agri modo, de aere alieno acerrime agere?* Inasmuch as Cicero himself was a collector of works of art, he doubtless wrote Atticus immediately on receiving *Fam.* VIII, 14, a fact which, apart from other evidence, would indicate that this last named letter is to be referred to September. Again, in *Fam.* XIV, 5, 1, written at Athens October 16, Cicero remarks: *Cognovi enim ex multorum amicorum litteris, quas attulit Acastus, ad arma rem spectare.* This observation is in harmony with *Fam.* VIII, 14, 2: *De summa re publica saepe tibi scripsi me in annum pacem non videre, et, quo propius ea contentio, quam fieri necesse est, accedit, eo clarius id periculum apparet. Fam.* VIII, 14, was surely one of the letters which the slave Acastus delivered to Cicero at the Piraeus October 14, having come from Rome in twenty-one days.[27] September 23 may be taken as its date. The augural election was held between the date of *Fam.* VIII, 12, and September 23.[28]

[25] Ausbr., p. 69, 2.

[26] *Quaest.*, pp. 24, 26–27.

[27] *Fam.* XIV, 5, 1; *Att.* VI, 9, 1.

[28] Hoffmann (*De Origine Belli Civilis Caesariani*, pp. 103–04) put the augural election in August. At the same time he dated *Fam.* VIII, 12, in

The date of Hortensius's death near the end of June, Nissen remarks,[29] is consistent with the date already established for the augural election.

The rumor current in Rome between September 19 and 23, that Caesar would occupy Placentia with four legions October 15,[30] Nissen and Sternkopf explain as having been caused by Caesar's first trip to Italy at the close of September.[31]

Nissen notes that both *Fam.* VIII, 12, and VIII, 14, expect Cicero to arrive home soon.[32]

II

Nissen's interpretation of *hibernis peractis* (*B. G.*, VIII, 50, 1), "after inspection of the winter quarters," can not be successfully defended. Caesar surely had no occasion to inspect the camp at Nemetocenna, which had been his own headquarters during the winter of 51/50;[33] and there is no cogent reason for thinking that he visited the other camps in which the various legions were stationed. The only tour of this kind mentioned in the Commentaries was made in 54, and then for the special purpose of finding what progress had been made in the construction of a fleet for the expedition to Britain.[34] The verb employed in the passage

September, after the *ludi Romani*, and accepted as a text in §4: *Scis Domitio comitiorum diem timori esse.* In like manner Tyrrell and Purser (*Correspondence of M. Tullius Cicero*, III, pp. LXXXIII, XCIX) designate June as the month in which the augural election occurred, but assign *Fam.* VIII, 12, to September (p. 240) and adopt the same text as Hoffmann in §4. Mommsen (*Staatsr.*, I³, p. 563, 1) thought nothing stood in the way of dating the augural election in 50 between the consular and praetorian elections. L. Holzapfel ("Der Endtermin der gallischen Statthalterschaft Cäsars," *Beiträge zur alten Geschichte*, V, p. 112, 6) in passing dates *Fam.* VIII, 14, in August. O. E. Schmidt (*Briefwechsel*, p. 88) gives the augural election a date between Sept. 20 and 24 and dates *Fam.* VIII, 14, the 23d or 24th.

[29] Ausbr., p. 68, 1; *cf. Fam.* VIII, 13; *Att.* VI, 6, 2; *Brut.* 1.

[30] *Att.* VI, 9, 1, 5.

[31] Ausbr., p. 69; *Quaest.*, p. 28.

[32] Ausbr., p. 68, 1.

[33] *B. G.*, VIII, 46, 6; 52, 1.

[34] *B. G.*, V, 2, 2.

cited is *circumire*. The verb *peragere* does not naturally lend itself to the meaning "inspect," "make the round of," and seems never to have been so employed.[35] Its essential and invariable meaning is, "to go through with," "to bring to completion." It may be applied to the work of completing a building, although this usage is comparatively rare.[36] It frequently takes as object nouns in which the time element is prominent; so also other compounds, as well as the simple verb *agere*. The lexicons furnish abundant illustrations. That *hiberna* may bear the meaning "winter," "season in winter quarters," is sufficiently evidenced.[37] If *peragere* can not mean "inspect," and if the meaning "construct" is excluded by facts from the present passage, Drumann and Lange were right in taking *hibernis peractis* to mean "at the end of winter." *Hiberna* is employed instead of *hiems* to indicate the place in addition to the season.[38] But they went too far in using the phrase as positive evidence for June (April or May of the reformed calendar) as the date of the augural election. From a military standpoint, winter, although not naturally to be thought of as extending so far as the middle of August (the equivalent in the reformed calendar of October 1 of the current calendar), was more elastic in its application than in ordinary speech and need not refer to the early spring months. The phrase *hibernis peractis*, therefore, while not necessarily implying so early a month as June, suggests an earlier time than October 1 or late September for Caesar's first journey to Italy.

The interpretation of *hibernis peractis* adopted above and the inference drawn therefrom are borne out by the relation of *B. G.*,

[35] P. Groebe expresses doubt as to Nissen's interpretation, Drumann-Groebe, *Gesch. Roms*, III, p. 349, 3. See also Hoffmann, *De Origine*, pp. 102–03.

[36] Suet., *Otho 7, ad peragendam auream domum.* The phrase *hibernis peractis* of our present passage can not be referred to the construction of quarters for the winter of 50/49; these were established much later, after the review of the army (*cc.* 52, 1; 54, 4).

[37] Liv. XXIII, 46, 9, *per hiberna;* IX, 28, 2, XXXIV, 22, *hiberna agere;* Verg., *Aen.* I, 266, *hiberna transire* (*hiberna* as subject); *cf.* Liv. XXVII, 8, 19; 21, 3, *aestiva agere.*

[38] See Conington on Verg., *l. c.*

VIII, 50, to *c.* 49,[89] and again by the phrase *contra consuetudinem, c.* 50, 1. Notwithstanding exceptions, it was certainly not Caesar's custom to go to Italy at the close of the winter quarter season, but at the conclusion of the summer's campaign. It is not to the point that the legions spent the entire summer of 50 in the winter quarters of 51/50, if they did, for in *c.* 50 Hirtius is speaking of Caesar's movements only.

Caelius's suggestion in *Fam.* VIII, 14, 4, of the possibility of averting civil war by sending Caesar or Pompeius against the Parthians is consistent with any date that may be assigned to the letter. Perhaps there would have been some additional incentive, at the time when Caelius wrote, to think of Parthia as a possible field for the employment of Caesar or Pompeius, if the letter was written in late July or early August, before the retreat of the Parthians in the present summer could have been known in Rome.

The question of pay for Pompeius's troops may or may not have come up at the same time in 50 as in 51. Granted that it did, it follows that Lange's date for *Fam.* VIII, 14, is too early. But there is nothing in *Fam.* VIII, 14, 4, or elsewhere to show how long a time elapsed between the debate in 50 and the withdrawal of Curio's veto. It may have been very short.

Lange undoubtedly dated the election of censors in 50 too early. Whether or not the election occurred in August, it certainly antedated *Fam.* VIII, 12, by a considerable period of time, as this letter shows that Appius was censor at the beginning of the quarrel between Caelius and Appius and that the quarrel was somewhat prolonged.

Plutarch's evidence in regard to the relative dates of the tribunician and augural elections, despite his proneness to error in matters of chronology, is not lightly to be set aside. As to the period in which the annual elections were held, it appears from *Att.* VI, 8, 2, that Batonius, whom Cicero met at Ephesus September 29, knew the result of the elections of praetors, tribunes, and consuls. If it be assumed that Batonius, or the news that he brought, came directly from Rome, the time from Rome to

[89] *Cf. c.* 49, 1, *Caesar in Belgio cum hiemaret;* also *c.* 46, 6, and note 35.

Ephesus is not likely to have been less than thirty-five days.[40] This merely establishes August 24 as a *terminus ante quem* for the three elections mentioned. Granted that Marcellus presided at the consular election, it does not follow that the election was held in an even month; the available evidence stands against the theory that consular collegiate duties were divided in accordance with a monthly alternation of the *fasces* at this period, especially in respect to the presidency of the *comitia* and senate.[41] Marcellus may as well have presided over the consular election in an odd month. It is to be observed that after the first month or two of the debates concerning the Gallic provinces we hear almost nothing of the older consul, Paulus, during the remainder of the year. In regard to the relative order of civil and sacerdotal elections in 50, *B. G.*, VIII, 50, 4, proves only that at the time when Caesar first knew the result of the augural election he knew also the result of the consular election, without enabling us to determine which of the two elections occurred first or how much time separated them. They may, so far as this passage indicates, have been held in quick succession, one courier bringing the first news of both. From evidence to be presented later it will be found that the consular election did precede the augural.

Fam. VIII, 12, was undoubtedly written in September. Since Caelius was probably kept busy during the games, and by his own confession was *ad litteras scribendas pigerrimus*,[42] the earliest probable date of the letter is September 19, the games ending on the 18th.[43] The conjectural emendation of *Scis Domitio*, etc., *Fam.* VIII., 12, 4, is eminently satisfactory from a paleographical point of view, but it is nowise decisive.

[40] Acastus arrived at the Piraeus from Rome on the 21st day (note 27). Cicero made the voyage between the Piraeus and Ephesus in thirteen days going, fourteen returning. The Aegean could be crossed in less time. But to judge from the evidence furnished by Cicero's letters from Cilicia, thirty-five days under ordinary conditions were quick time from Rome to Ephesus.

[41] Mommsen, *Staatsr.*, I³, p. 41 ff.; Madvig, *Verf. und Verw.*, I, p. 374; Lange, *Röm. Alt.*, I², p. 733; Willems, *Le Sénat*, II, pp. 126–28.

[42] *Fam.* VIII, 1, 1.

[43] Wissowa, *Religion und Kultus der Römer*, pp. 385–86.

Sternkopf finds a contrast between Appius's position as defendant under the *lex Scantinia* and his censorial severity. Another explanation is possible. The words *legis Scantiniae iudicium apud Drusum fieri, Fam.* VIII, 14, 4, seem clearly to involve a contrast between the character of Drusus and his position as presiding judge. Otherwise *apud Drusum* is pointless. A similar contrast is possibly to be found in *Appium de tabulis et signis agere;* Appius had displayed no little enthusiasm in appropriating statues and pictures in Greece some years earlier.[44] That we have two cases of contrast intended between private conduct and official position is suggested also by the chiastic arrangement of the words in the two infinitive clauses. This view of the passage does not exclude the possibility that the *iudicium* was after all one involving Appius, in which case the thrust at him in *Appium de tabulis et signis agere* may be doubly pointed. It is possible, however, if *iudicium fieri* refers to a single trial, that allusion is made to some other person than Appius; or again, from the nature of the phrase, the reference may be to a docket of cases coming under the *lex Scantinia,* in a court or a section of a court presided over by Drusus, perhaps, as Lange suggested,[45] in accordance with an edict issued by Appius. On either of the last two suppositions we have an item of news casually alluded to and otherwise unexplained. It is not impossible that *Fam.* VIII, 14, was accompanied by a *commentarium*[46] containing all information essential to an understanding of casual allusions in the letter.

Although other friends than Caelius, whose letters were carried by Acastus, may have reported to Cicero the censor's edict regarding statues and pictures, we do not know that they did. We do know that *Fam.* VIII, 14, contains the information. It is almost certain, therefore, that this letter was one of those which Acastus carried to Cicero when he left Rome September 23. If the augural election was held later than the date of *Fam.* VIII, 12, it must have been held later than September 18, the closing day of the

[44] Cic., *de Domo,* 43, 111–12; *cf. Fam.* VIII, 12, 3, *praeterea coepi sacellum, in domo quod est, ab eo petere.*

[45] *Röm. Alt.,* III², p. 398.

[46] *Fam.* VIII, 2, 2; 11, 4.

ludi Romani, since the assemblies did not meet during the periods of the public games,[47] and probably later than September 19, which, as noted above, is the earliest probable date of *Fam.* VIII, 12.

If Hortensius's death took place at the end of June, that fact is consistent with dating the augural election late in September. But the date of Hortensius's death assumed by Nissen rests upon the rate of letter-post from Rome to Rhodes. In a given case, and in the absence of positive evidence, we can not be sure that a letter or a messenger traveled at the ordinary rate. Cicero, furthermore, heard of Hortensius's death not at the end of August, but near the 10th.[48]

If the augural election was held between September 18 and 23, Caesar's arrival in Italy can not have been earlier than October 1, as is clear from the fact that he was informed of the outcome of the election before reaching Italy.[49] The fact of his arrival can hardly have been known in Rome earlier than October 10. To base a rumor which was current in the city between September 19 and 23, and perhaps earlier, on Caesar's trip to Italy, necessitates the assumption that his coming was generally known some considerable time in advance of his arrival. There is nothing additional, in the way of positive evidence, to support such an assumption.

In *Fam.* VIII, 12, 4, Caelius says in anticipation of Cicero's return home: *Te exspecto valde et quam primum videre cupio;* in VIII, 14, 4: *Curre, per deos atque homines! et quam primum haec risum veni, legis Scantiniae iudicium apud Drusum fieri, Appium de tabulis et signis agere; crede mihi, est properandum.* These passages seem to express nothing more than Caelius's earnest wish to see Cicero at the earliest possible moment. If there is any difference in tone between the two, VIII, 12, 4, more nearly indicates the expectation of seeing Cicero soon.

From the foregoing discussion it is made out with reasonable certainty, (1) that there is nothing in the evidence thus far adduced to justify rejection of Plutarch's explicit statement that

[47] *Staatsr.,* III[1], pp. 1055–56; *Röm. Alt.,* II[3], p. 469.
[48] Schmidt, *Briefw.,* p. 91.
[49] *B. G.,* VIII, 50, 3.

Antonius was first elected tribune, then augur; (2) that *Fam.* VIII, 14, was carried from Rome by Acastus September 23. *Hibernis peractis, B. G.*, VIII, 50, 1, together with the context, favors an earlier date than late September for Caesar's first journey to Italy. The validity of other points raised by Nissen and Sternkopf must be determined ultimately in the light of other evidence.

III

Hirtius, in speaking of Caesar's first trip to Italy, *B. G.*, VIII, 50, 2, says that Caesar had sent Antonius on ahead *paulo ante*. Antonius was also elected tribune.[50] He must therefore have come to Rome at least a *trinundinum* before the date of the tribunician election, in order to make the usual *professio*.[51] We have found in August 24 a *terminus ante quem* for the election of tribunes, consuls, and praetors. These three colleges of magistrates appear to have been elected relatively in the order named in the period of the late Republic, although not necessarily in immediate succession.[52] If it be assumed that these elections in 50 were held in August and in immediate succession, the latest date for the praetorian election would be the 20th, which was the last comitial day before the 24th, the latest date for the consular election the 18th, for the tribunician the 16th, and the latest date for Antonius's *professio*, if the *trinundinum* was seventeen days, the last day of July. Antonius should therefore have left his camp in the Belgian country[53] before the middle of July, the distance to travel being not less than 1,100 *m. p.* But he certainly left Belgium at a much earlier date. Antonius and Caesar could not have known what date would be set for the election of tribunes. To be on the safe side they would have to assume the earliest possible date,

[50] Hirtius says nothing of Antonius's election to the tribunate. This is probably due to the fact that he is concerned primarily with Caesar's movements, and so mentions only those political events in Rome which, as he alleges, affected Caesar's plans, *viz.*, Antonius's candidacy for the augurate and the result of the consular election.

[51] *Staatsr.*, I², p. 484; *Röm. Alt.*, I², p. 714.

[52] *Röm. Alt.*, I², p. 718.

[53] *B. G.*, VIII, 46, 4; 47.

i. e., July 14,[84] the first comitial day following the *ludi Apollinares*. Antonius must then arrive in Rome not later than June 27, leaving camp early in the month. He probably came somewhat earlier than June 27, for he would not be likely to plan his journey in such a way as to arrive on the last day available for the *professio*. *Paulo ante* and similar phrases are relative, and therefore elastic. Nevertheless the four months which would intervene between the departure of Antonius and Caesar from Belgium, if the latter came to Italy in late September, are too long a time, in comparison with the total period dealt with in *B. G.*, VIII, 50–55, to harmonize well with *paulo ante*. This item of evidence also favors an earlier date than late September for the augural election and for Caesar's first journey to Italy.

Appius Claudius in his attempt to humiliate Caelius, *Fam.* VIII, 12, 1–3, is reported by the latter as working in collusion with Domitius, *ut nunc est, mihi inimicissimo homine*. The clause *ut nunc est* implies a change in the relations between Caelius and Domitius. That Caelius had not been one of Domitius's personal friends is evident from *Fam.* VIII, 14, 1: *ut ne familiarem quidem suum quemquam tam oderit quam me*. From what immediately precedes it is equally evident that Domitius did regard Caelius as a natural supporter in the augural contest on the ground of political affiliation: *Magna illa comitia fuerunt, et plane studia ex partium sensu apparuerunt; perpauci necessitudinem secuti officium praestiterunt. Itaque mihi est Domitius inimicissimus*. From this it is to be inferred that Caelius and Domitius had not been personally hostile hitherto. Caelius's support of Antonius would afford ample reason for Domitius's present hostility. We know of no other reason. The casual way in which the changed relations of the two are mentioned, without indication of the cause, is most naturally explained by supposing that *Fam.* VIII, 12, was

[84] This was undoubtedly the date in 51. The tribunes and consuls were elected in that year before July 19 (*Att.* V, 18, 1, 3), and there were only three comitial days between the *ludi Apollinares* and the 19th, *viz.*, the 14th, 17th, 18th; of these the 18th was *dies Alliensis*, on which the assemblies, perhaps also the senate, seem not to have met (Wissowa, *Relig. und Kult.*, p. 376; Willems, *Le Sénat*, II, p. 151, 5).

written later than the date of the augural election and later than VIII, 14, as § 1 of the latter contains the information essential to the understanding of the casual allusion in VIII, 12, 1. The only reasonable hypothesis alternative to the one above, that will allow the augural election and *Fam.* VIII, 14, a later date than the date of VIII, 12, is, that Caelius had, in a letter not preserved to us, informed Cicero of the impending election, of his own support of Antonius, and of Domitius's consequent enmity; or, that VIII, 12, was accompanied by a *commentarium* that gave the required information. There is no evidence, otherwise, for a lost letter. In respect to a *commentarium,* the item of Domitius's hostility, a matter of personal concern to the writer, is precisely of a sort to elicit an additional word of explanation from Caelius himself, the more so because he employed another to compile the digest of news which he was sending to Cicero from time to time.[55] The absence of such explanation or comment favors the view that the election and *Fam.* VIII, 14, antedated *Fam.* VIII, 12.

Similar evidence is afforded by another line in *Fam.* VIII, 12, 1, in the same sentence with the reference to Domitius's hostility: (*Posteaquam vero comperi eum*) . . . *velle hoc munusculum deferre Cn. Pompeio.* Caelius's relations with Pompeius are not known to have been distinctly unfriendly before the former deserted the conservatives in the augural matter. Caelius's clash with Pompeius in connection with the trial of Milo[56] in 52 need not have caused a serious personal breach, any more than Cicero's defense of Milo alienated him and Pompeius. At the same period Caelius gave no uncertain sign of his party loyalty by his temporary opposition to the plan to grant Caesar the privilege of candidacy in absence when he should stand for a second consulship.[57] In 51 and 50 Caelius seems to have taken no active part in the senate's debates concerning the Gallic provinces, partly, perhaps, owing to his friendship with Curio.[58] On the whole, his letters to Cicero, notwithstanding disparaging allusions to Pompeius and

[55] *Fam.* VIII, 1, 1.
[56] Ascon. *in Mil.,* Or., p. 37.
[57] *Att.* VII, 1, 4.
[58] *Fam.* II, 15, 3; VIII, 17, 1.

other opponents of Caesar, reveal a conservative up to the time of the augural contest. Although at the date of *Fam.* VIII, 14 (*cf.* §§ 2, 3) Caelius had not definitely committed himself to Caesar's cause, his support of Antonius was a plain advertisement of his openness to conviction and could not but anger Pompeius. Unless *Fam.* VIII, 14, was written before VIII, 12, Cicero might have been at a loss to understand *eum velle hoc munusculum deferre Cn. Pompeio.* The same alternative hypothesis of a lost letter or a *commentarium* applies in this case as in the case of Domitius and Caelius.

From *Fam.* VIII, 14, 1, we learn that Domitius after his defeat at the polls invoked the aid of the courts to vent his anger at various supporters of Antonius, enlisting his son Gnaeus as prosecutor in at least one case, that of Saturninus. In the closing sentence of § 1 Caelius alleges the acquittal of Sex. Peducaeus as a ground for hope in the case of Saturninus: *Nam Cn. Saturninum adulescentem ipse Cn. Domitius reum fecit sane quam superiore a vita invidiosum; quod iudicium nunc in exspectatione est, etiam in bona spe post Sex. Peducaei absolutionem.* Caelius does not say that Peducaeus was prosecuted for an offense committed in support of Antonius's election to the augurate. But it must have been so, in order that the citation of his case should be to the point. Peducaeus's support of Antonius here assumed finds some confirmation in the fact that he took sides with Caesar in the Civil War.[59] The nature of the charge against Peducaeus is not stated. The most natural charges incidental to an election were *ambitus* and *vis.* Cicero, in alluding to this election, *Phil.* II, 2, 4, says: *Cuius (Curionis) etiam familiares de vi condemnati sunt, quod tui nimis studiosi fuissent.* That all cases resulted in conviction is not probable. It was not to Cicero's purpose to note exceptions. A criminal process involved the *postulatio,* followed by the *nominis delatio,* at which the praetor set the hearing of the case not less than ten days later.[60] If *postulatio* and *nominis delatio* in the case of Peducaeus occurred on successive days, if the ten days be taken by inclusive reckoning, and if one day only,

[59] App., *B. C.,* II, 48.

[60] Greenidge, *Legal Procedure of Cicero's Time,* p. 459 ff.

the tenth day after the *nominis delatio,* be assigned to the trial, eleven days are required for the whole process. The time was in all probability longer by at least a day or two, for the evidence, although scanty, indicates that *postulatio* and *nominis delatio* did not fall on successive days.[61] It is therefore impossible to give the augural election a place between the date of *Fam.* VIII, 12, and September 23. The election in that event could not have been held earlier than September 19,[62] probably not earlier than the 20th, which would leave but two or three days for the criminal process in question. The latest possible date of the election, considering the evidence from Peducaeus's trial alone, would be August 28, the last comitial day before the *ludi Romani,* which began September 4. If the charge against Peducaeus was *vis,* the trial might have been held during the games.[63] Any other charge would necessitate a trial date later than the games.

There is fairly conclusive evidence to show that in the period of the late Republic vacancies in the more important priestly colleges were filled each year at one time, and that the sacerdotal election held a fixed place in the series of civil elections, between the consular and the praetorian.[64] August 20 has been established as the latest possible date of the praetorian election. August 18 is thus seen to be the latest possible date of the augural election.

Whether or not the augural election in 50 did in fact occur as late as August 18 depends on the amount of time required for the events of Hirtius's narrative in *B. G.,* VIII, 50–55. Before discussing these in detail it is desirable first to consider the latter terminus of the narrative, the date of Caesar's arrival in Italy on his second journey thither. In *c.* 55, 1, Hirtius reports Caesar's arrival in these words: *Quo cum venisset, cognoscit per C. Marcellum consulem legiones duas ab se missas, quae ex senatus consulto deberent ad Parthicum bellum duci, Pompeio traditas atque*

[61] *Ibid.,* p. 459, 7; 461, 1.

[62] P. 302 and note 47.

[63] Greenidge, *Legal Proced.,* p. 457.

[64] *Staatsr.,* I[3], p. 563; II, p. 30; *Röm. Alt.,* II[3], pp. 538–39; Bouché-Leclerq in Daremberg-Saglio, I, p. 552; Gemoll, *De Cooptatione Sacerdotum Romanorum,* pp. 14–15; Wissowa, *Relig. und Kult.,* p. 418.

in Italia retentas esse. This overt act of the consul was certainly of sufficient importance to warrant the assumption that Caesar was informed of the new posture of affairs by his friends in Rome as soon as possible. The date at which Pompeius received his commission from Marcellus evidently has an important bearing on the date of Caesar's coming to Italy.

IV

In the accounts given by Appian,[65] Dio,[66] and Plutarch,[67] the investiture of Pompeius with the sword at the hands of Marcellus took place in the suburbs of Rome, and apparently not long before the termination of Curio's tribunate. Appian's account is inherently probable in making this dramatic scene follow a meeting of the senate, at which Marcellus endeavored to induce the senate to put into the field the two legions taken from Caesar. Nissen[68] thought from the tone of *Att.* VII, 3, that Cicero received word of this event from Atticus in a letter delivered to him at Aeculanum December 6 (§ 1), and that in consequence December 4 was probably the day on which Marcellus directed Pompeius to take up arms. Aeculanum, however, was about 180 *m. p.* from Rome; the date of Pompeius's commission could scarcely have been later than December 2,[69] it being assumed that Nissen's understanding of *Att.* VII, 3, is correct. L. Holzapfel[70] and C. Bardt[71] are at one in holding closely to the evidence of Appian and Dio as to the time and place and in dating this event not later than December 2. Bardt does not think that *Att.* VII, 3, reveals greater perturbation on Cicero's part than other letters of the period.[72] However that may be, there is additional evidence to show that

[65] *B. C.*, II, 31.
[66] XL, 64–66.
[67] *Pomp.* 58–59.
[68] Ausbr., p. 72, 2.
[69] *Briefw.*, p. 96.
[70] "Die Anfänge des Bürgerkrieges zwischen Cäsar und Pompeius," II, *Beiträge zur alten Geschichte*, IV, pp. 334–35.
[71] "Die Übergabe des Schwertes an Pompeius," *Hermes*, XLV, p. 339.
[72] *Ibid.*, pp. 342–43.

December 2 is the latest date that can be assigned to this incident.

Of the events of this period no other than Pompeius's commission from Marcellus to take over command of the two legions furnished an adequate cause for Caesar's summoning of the eighth and twelfth legions from Transalpine Gaul.[73] Caesar on his way to Brundisium in 49 left Auximum January 28 or 29.[74] The twelfth legion overtook him at Auximum or very soon after he left that place, certainly before he reached Firmum (February 2).[75] This legion, it may safely be assumed, was one of the four that had gone into quarters for the winter in the country of the Aedui,[76] and so was probably quartered not farther south than Matisco. The distance from that place to Auximum either by the Graian or the Cottian Alps was approximately 650 *m. p.* It is not likely, from what is known of the rate of march of Roman armies and from a consideration of the distance to be covered, that the actual marching time was less than thirty-five or thirty-six days, with six additional days for rest. If the twelfth legion came to Auximum the evening of January 29, it must have left camp not later than December 18. It is highly probable, as already assumed, that Caesar's friends in Rome sent a courier to him as soon as they knew of Marcellus's bestowal of command upon Pompeius; and since it was of great importance to Caesar to keep in touch with his representatives in the city, it may be further assumed that they would know by what route a courier need go in order to find Caesar at the earliest moment.[77] There

[73] Caesar's account of this, *B. C.*, I, 8, 1 (*cf.* 7, 7), as has been frequently observed, is misleading in regard to the date. Appian (*B. C.*, II, 34) and Plutarch (*Caes.* 32) contain reminiscences of the truth.

[74] L. Holzapfel, *Beiträge*, III, p. 218 ff.; Mary Bradford Peaks, "Caesar's Movements, Jan. 21 to Feb. 14, 49 B. C.," *Classical Review*, XVIII, p. 346 ff.

[75] *B. C.*, I, 15.

[76] *B. G.*, VIII, 54, 4.

[77] See *B. G.*, VIII, 52, 3, *ibi quamquam crebro audiebat, etc.* Information of this sort would naturally come, in part at least, from Rome. There can be no doubt that Caesar was in frequent communication with the Capital. His close friends there surely knew of the review, of its place, and of the route by which Caesar would return to Italy.

appears, further, to be no reason for doubting that Petronius[78] preserves an historical fact in bringing Caesar into Italy on his second journey by the Little St. Bernard. From *B. G.*, VIII, 55, 1, we know that Caesar received the news of Pompeius's commission after arriving in Italy. It is also certain from the same chapter that the news came to him before he arrived at Ravenna; for, however brief the lost portion of *Bk.* VIII, Caesar's arrival at Ravenna was surely recorded. Caesar therefore met the courier at some point between the Little St. Bernard and Ravenna. Suetonius furnishes the information that Caesar held the usual provincial assizes before going to Ravenna.[79] Since the assizes would naturally be held in the larger towns, and since Caesar would naturally come down the Aemilian road on his way to Ravenna, he is not likely to have been farther east than Bononia when the courier found him. Immediately upon receiving the news of Marcellus's act, we may imagine, Caesar sent the same or another courier on to the eighth and twelfth legions with orders to march. We have to account, then, for the virtually uninterrupted journey of a courier from Rome to the Aeduan country. The distance from Rome to Matisco *via* Bononia, Placentia, and the Little St. Bernard, was 750 *m. p.* or more. Unless a courier made unusual speed he would require at least fifteen days to travel this distance.[80] If he arrived at Matisco the evening of December 17, causing the twelfth legion to break camp December 18, he must have left Rome not later than the morning of the 3d. The sources are unanimous in representing the suburbs of Rome as the scene of the delivery of the sword to Pompeius. The incident can not be dated later than December 2.

According to O. E. Schmidt's reconstruction of the chronology of events at the close of the year 50, Pompeius, who had been at Naples for some time past, received his commission from Marcellus there about December 13.[81] Upon learning that Pompeius

[78] *Sat.*, 122, l. 144 ff.; Desjardins, *Géographie de la Gaule romaine*, I, p. 74.

[79] *Iul.* 30.

[80] *Briefw.*, p. 201 ff.

[81] *Ibid.*, pp. 14–15, 96–100.

had gone to Apulia to assume command of the two legions, Curio left Rome for Ravenna December 21, to inform Caesar, and arrived December 24 or 25; from Ravenna Caesar sent marching orders to the eighth and twelfth legions; the twelfth started for Italy January 1. But Pompeius's sojourn in Campania, as Bardt objects,[82] belongs to a period considerably earlier than December, when Atticus was on the road to Rome in September.[83] In support of December 13 as the approximate date of Pompeius's commission from Marcellus, Schmidt cites *Att.* VII, 5, 4: *De re publica cotidie magis timeo; non enim boni, ut putant, consentiunt. Quos ego equites Romanos, quos senatores vidi, qui acerrime cum cetera, tum hoc iter Pompei vituperarent. Pace opus est: ex victoria cum multa, tum certe tyrannus exsistet.* In *cum cetera* Schmidt sees a reference to Marcellus's arbitrary assumption of authority, and in *hoc iter* a reference to the journey which he thinks Pompeius made from Naples to Luceria in order formally to take over command of the legions. But the passage proves with certainty only that Cicero, since arriving in the region frequented by senators and knights, has had the opportunity to meet many of them and has found them far from united in approval of the step taken by Marcellus and Pompeius. As observed below, *hoc iter* may just as well refer to Pompeius's journey from Rome to Campania. Again, at his conference with Cicero in Campania December 10 (*Att.* VII, 4, 2), Pompeius remarked that Hirtius, who arrived in Rome the evening of December 6, coming from Caesar, had failed to visit him, and professed to find in this fact proof of Caesar's estrangement. Such an inference on Pompeius's part is almost unthinkable, if at the time of Hirtius's arrival in Rome Pompeius himself had been in Campania; in the latter event Hirtius would have had a six days' journey to make, to and fro, in order to see Pompeius. It is implicit in Pompeius's criticism that Hirtius failed to do something easy and natural to do, from which it is to be inferred that Pompeius was in the neighborhood of Rome December 6. It is therefore almost certain that he was there when

[82] *Hermes*, XLV, p. 339.
[83] *Att.* VII, 2, 5.

Marcellus entrusted him with the defense of the state. He may have departed for Campania December 7.

To follow Schmidt's dates, there were at best but five days, December 25–29, after Curio's arrival at Ravenna, in which a courier must travel from Ravenna to the Aeduan country, a journey of nearly 540 *m. p.* Schmidt himself is our best authority that couriers did not usually make better than 50 *m. p.* daily.[84] Furthermore, the twelfth legion leaving camp January 1 would have had but twenty-nine days in which to travel the 650 *m. p.* to Auximum. If four or five days be allowed for rest, the daily march would have been 26 or 27 *m. p.*, an impossible rate for so great a distance.

Caesar says in *B. C.*, I, 7, 7, that he called out the thirteenth legion *initio tumultus.* If he sent for the eighth and twelfth legions at the same time, as Schmidt suggests, with probability, *initium tumultus* is to be identified, not with Caesar's receipt of news that Pompeius had arrived in Apulia and had assumed command of the two legions, which Schmidt thinks were quartered there at this time, but, as Nissen[85] saw, with intelligence of the commissioning of Pompeius by Marcellus in the suburbs of the city. The legions, too, were doubtless at Capua when Pompeius took charge of them December 10 or soon after; it was here, rather than at Naples, that Cicero met Pompeius on that date.[86] Pompeius may have sent the legions into Apulia in December, although this is not at all certain. Whether he himself accompanied them, if they went at this time, would be another question; *hoc iter, Att.* VII, 5, 4, may refer to the recent journey of Pompeius from Rome to Capua. Although Pompeius seems to have qualified his acceptance of the proffered commission,[87] Caesar could feel fully justified in sending for reinforcements upon learning of the arbitrary procedure of Marcellus and Pompeius. If in the course of the next few weeks negotiations looking to a peaceful settlement of his dispute with Pompeius and the senate

[84] Note 80.
[85] Ausbr., p. 75.
[86] L. Holzapfel, *Beiträge,* IV, p. 334, 7.
[87] App., *B. C.*, II, 31.

should prove successful, it would be easy enough to turn his legions back.

Schmidt holds that the conferment of command on Pompeius prior to December 7 would have made impossible the negotiations arranged for that day between Balbus, acting as Caesar's representative, and Scipio, who, as Pompeius's father-in-law, was certainly acting with Pompeius's sanction.[88] But we are not justified in assuming that Pompeius, on the one hand, would have been aware of inconsistency in his action or would have felt embarrassment in such a situation. He doubtless regarded himself as the defender of the state in a time of urgent need. Caesar was the one who, as it must have seemed to Pompeius, through the obstructive actions of his agent Curio, was responsible for the threatened civil war.[89] So far as Balbus was concerned, he was in all probability acting without immediate and specific instructions from Caesar, for it is not at all likely that there had been time for communication with Caesar since the commissioning of Pompeius. The peculiar relation sustained by Balbus to Caesar and Pompeius, as well as his character in general, made him eminently fit to act as a mediator on his own motion, whatever the circumstances.[90] To Hirtius the situation may have seemed more serious, in consequence of which he did not wait to learn the outcome of the conference between Balbus and Scipio.[91]

If for the moment December 2 be taken as the date of Pompeius's commission from Marcellus, and if Hirtius be understood to mean that Caesar received news of this immediately upon entering Italy, it is not probable that he arrived earlier than December

[88] *Briefw.*, p. 96; *Att.* VII, 4, 2.

[89] See *Fam.* VIII, 8, 9 (Oct., 51): *Cum (Pompeius) interrogaretur, si qui tum intercederent, dixit hoc nihil interesse, utrum C. Caesar senatui dicto audiens futurus non esset an pararet, qui senatum decernere non pateretur.*

[90] Drumann, *Gesch.*, II, p. 597 ff.

[91] C. Bardt (*Hermes*, XLV, p. 340) thinks that Hirtius came to Rome by appointment and was to have participated in the conference with Scipio. This seems to me more than can be rightly inferred from *Att.* VII, 4, 2. What Pompeius complains of, is, simply, that Hirtius had not only not called on him but had not even awaited the result of Balbus's intended conference with Scipio.

12, as the distance from Rome to the northwestern border of Italy was more than 500 *m. p.*[92] But other evidence renders it improbable that Caesar came into Italy so late. There is no good reason to doubt the statements of Appian and Dio that Curio left Rome to go to Caesar as soon as his tribunate came to an end. From Appian's account it appears that he found Caesar at Ravenna. Curio doubtless learned from Hirtius December 6 of Caesar's probable whereabouts at the time when he himself should leave Rome to join Caesar. The distance between the two places was nearly 260 *m. p.* Leaving Rome December 10 Curio could have been in Ravenna by December 14.[93] This latter date is to be taken as the latest possible date of Caesar's arrival in Ravenna. Obviously he could not have been at the northwestern frontier of Italy as late as December 12, to say nothing of the provincial assizes, brief though they may have been.

It is highly probable that Hirtius came into Italy in company with Caesar. If Hirtius went on directly to Rome, say from Augusta Praetoria, at a courier's pace of 50 *m. p.* daily, November 25 is the latest probable date of arrival at that place, since Hirtius came to Rome December 6. Some sixteen or seventeen days would thus be available for the assizes.

If Caesar arrived in Italy November 25, it is necessary, on the assumption that Pompeius received his commission from Marcellus December 2, to take the clause *quo cum venisset, B. G.*, VIII, 55, 1, as the equivalent of *quo postquam venit.* If, however, Hirtius meant that Caesar heard of Pompeius's commission immediately on entering Italy, the commission must be dated earlier than December 2, as early as the middle of November. The first of these alternatives is certainly possible. The second is not made impossible by the mere fact that Marcellus, the younger consul, presided at the meeting of the senate which preceded the commissioning of Pompeius. As noted before, the older

[92] It was approximately 520 *m. p.* from Rome to Augusta Praetoria *via* Bononia, Placentia, Laus Pompeia, Vercellae, Eporedia.

[93] It need not be supposed that Curio always traveled as rapidly as he did on his return trip to Rome in order to deliver Caesar's ultimatum Jan. 1 (App., *B. C.*, II, 32).

practice of alternation of *fasces* can not be used as a basis for distributing the months between the two consuls.

But there is very good reason for thinking that Caesar arrived in Italy earlier than November 25. Marcellus's proposal to turn the two legions against Caesar is said by Appian to have been inspired by a false rumor that Caesar had crossed the Alps and was marching on the city.[94] The latter half of the rumor was certainly false. Curio's denunciation of the report need refer to this second part only. But it is quite possible that Caesar came into Italy earlier than November 25 by a week or more, as will appear later. It is credible also that the government party was watching Caesar's movements and was quickly informed of his presence in Cisalpine Gaul. If, in addition, the fact that a part of the army was on its way to the Aeduan country after the review, or had already arrived there, became known in northern Italy at the time of Caesar's coming, it may have been converted into the rumor that the entire army was marching to attack the city. On this hypothesis Caesar would have reached Italy at least nine or ten days before the date at which Pompeius received his commission, as early as November 20 or 21, the latest possible date of that event being December 2. This hypothesis would compel us to adopt the first of the alternative explanations of *quo cum venisset* given above. There is further evidence for this explanation.

In *B. G.*, VIII, 52, 4 ff., Hirtius seeks to justify the equanimity with which Caesar, in the period following the review of his army, received reports of his enemies' endeavors to tamper with Labienus's loyalty, and mentions one attempt in particular which Curio made to secure a decree of the senate ordering both Pompeius and Caesar to give up their armies. Hirtius might be expected to cite the most impressive incident of the kind, one in which a vote was taken, if possible, and in consequence the vote of 370 to 22 in favor of the disarmament of the two rivals, which left no doubt of the senate's aversion to civil war, and which could well have been regarded as reassuring to Caesar.[95] It would

[94] *B. C.*, II, 31; *cf.* Plut., *Pomp.* 58.

[95] App., *B. C.*, II, 30; Plut., *Pomp.* 58.

heighten the effect of this attempted justification if such a vote had come as the culmination of Curio's repeated proposals to the same effect. But Hirtius was bound by the facts, whatever they were. The phraseology employed, *facere coepit,* is conclusive against our thinking of an actual vote.[96] It would seem that at the moment when Curio attempted to divide the senate another tribune friendly to Pompeius interposed his veto.[97] From this it follows that the vote of 370 to 22 reported by Appian and Plutarch belongs to a date too late for Caesar to have been informed of it while with his army after the review, although it may have been taken while he was on his way to Italy. As the commissioning of Pompeius followed a still later meeting of the senate, it is very probable that Caesar reached Italy at a date too early at least for a courier with news of Pompeius's commission to meet him upon his arrival. Since Hirtius's language, *quo cum venisset,* acts as no bar to finding a connection between Caesar's presence in Italy and Marcellus's arbitrary assumption of authority, and since the rumor in question is very likely to have had some basis in fact, it may be regarded as reasonably certain that Caesar came into Italy by November 20 or 21, and that his presence there was the occasion of the rumor which led to the arming of Pompeius.

The rumor which we have been discussing sprang up between the two meetings of the senate described by Appian. If the two sessions fell on December 1 and 2, respectively, as is now generally assumed, we have a series of three events remarkable for the rapidity of their succession—the vote on successors to Caesar and Pompeius December 1, on the same day or the next the receipt of news that Caesar had arrived in his Cisalpine province and would attack the city, and the attempt of Marcellus to bring about a vir-

[96] For similar phraseology in connection with an attempt to pass a law, *cf. Att.* IV, 17, 3 (16, 6): *Coepta ferri leviter, intercessum non invitis.*

[97] This incident belongs to an early period in the debates on the Gallic provinces (*cf.* App., *B. C.*, II, 28–29). Lange placed it in June (*Röm. Alt.*, III², p. 396, 1), basing his conclusion simply on what he conceived to be the relation between *B. G.*, VIII, 52 and 54. His mistaken identification of the incident to which Hirtius alludes, *c.* 52, 5, with the vote of 370–22 led him to date the latter far too early. For veto of a tribune's *relatio* see Willems, *Le Sénat,* II, pp. 133, 140, 201.

tual declaration of war, followed by the commissioning of Pompeius. That the third should have followed the second immediately was natural and is easy to believe. But it is not so probable that all three occurred within the space of two days. The vote on successors to Caesar and Pompeius, it seems more likely, belongs to November rather than to December.

I am inclined to think that the commissioning of Pompeius also occurred in November, for it is difficult to escape the impression that Hirtius's coming to Rome was closely related to this incident. The course of events I conceive to have been as follows. Caesar arrived in northwestern Italy November 14 or 15. The incident of the vote on successors to Caesar and Pompeius occurred between this date and November 25. By the latter date word of Caesar's arrival was conveyed to Rome. Marcellus called the senate together the same day and endeavored to rouse it to action. The senate's unwillingness to adopt coercive measures against Curio, who had prevented a vote on Marcellus's proposal to turn the legions at Capua against Caesar, induced the consul to act on his own responsibility by authorizing Pompeius to defend the state. Caesar's friends despatched a messenger to him at once. In the meantime Caesar had journeyed on toward Ravenna, perhaps to Mutina or Bononia. The messenger found him December 1. Caesar sent orders to the eighth and twelfth legions to start for Italy, directed the scattered detachments of the thirteenth legion to assemble at Ravenna, and sent Hirtius on to Rome to obtain a later and fuller account of the situation. Hirtius came to Rome the evening of December 6. Here he learned that Pompeius intended to go to Capua on the following day. Balbus, in the hope of forestalling such a move on Pompeius's part, had arranged to confer with Scipio early on the morning of the 7th. Hirtius would not await the outcome of the conference, but started back to rejoin Caesar the night of the 6th. Whether Caesar had in the meantime gone on to Ravenna, or awaited Hirtius's return before proceeding thither, can not be determined with certainty. It is probable, however, that the two met at Ravenna. Hirtius would probably not reach Bononia before December 11. Since Curio and Caesar met at Ravenna, and since Curio may have

arrived there by the 13th, it is more likely than not that Hirtius and Caesar also met at Ravenna. They would as a matter of course have agreed on a meeting place before Hirtius departed for Rome.

In *B. G.*, VIII, 55, 1, Hirtius, in reporting Caesar's receipt of the news that the two legions at Capua had been placed at Pompeius's disposal, adds, *atque in Italia retentas esse*. Hirtius certainly does not refer to the placing of these legions in winter quarters in Apulia, if they were really sent there in December. They could not have left Capua before December 10, for it is fairly certain that Pompeius did not reach Capua before the 9th. As we have found that the message which prompted Caesar to send for the eighth and twelfth legions was despatched from Rome not later than December 2 or 3, and probably as early as November 25 or 26, the words quoted above are to be regarded as a corollary to those preceding, meaning that the assignment of these two legions to Pompeius was in effect a proclamation, so far as the consul's authority went in the matter, that the legions would not be sent to Syria. Of their actual detention in Italy hitherto, if they had been there any long time (p. 331), Caesar could not have been in ignorance. From Hirtius, Caesar learned of Pompeius's intended journey to Capua. From Curio, he learned that Pompeius had actually left Rome December 7.

The net result of the preceding discussion is, (1) that Pompeius received his commission to defend the state not later than December 2, probably as early as November 25, (2) that Caesar arrived in Italy on his second trip not later than November 20 or 21, and probably as early as the 14th or 15th.

V

It is now in order to investigate Hirtius's narrative in detail. At the moment when Caesar was informed of the result of the augural election (*c.* 50, 3) sufficient time at least had elapsed since the election for a courier to travel from Rome to a point beyond the confines of Italy. It is likely that Caesar came by the Little St. Bernard, as on his second trip. The distance from Rome to the

Little St. Bernard *via* Augusta Praetoria was nearly 560 *m. p.* Caesar probably did not meet the courier in less than twelve days after the election.[98]

Caesar then made the round of Cisalpine Gaul described in *cc.* 50, 3–52, 1. The time consumed will be discussed later.

At the conclusion of this journey Caesar returned to his troops at Nemetocenna, which is doubtless to be identified with Nemetacum (Arras).[99] Starting from some point in the western part of Cisalpine Gaul, Augusta Taurinorum or Eporedia, he had 660 *m. p.* to travel, either by the Cottian or the Graian Alps, going *via* Vienna and Durocortorum. On occasion Caesar traveled as rapidly as 100 *m. p.* daily.[100] In contrast to this rapid rate we find him, after the fatiguing campaign early in 49, taking twelve days for the journey from Brundisium to Rome, 370 *m. p.*[101] The journey from Italy to Nemetocenna was made *summa celeritate* (*c.* 52, 1). But the circumstances seem not to have called for extreme speed. It is probably near enough to the truth to assume ten days for the trip.

From Nemetocenna, according to Hirtius (*c.* 52, 1), Caesar sent orders to the legions in the various winter camps of 51/50 to assemble in the country of the Treveri. The vicinity of Augusta Treverorum is a not improbable rendezvous.

Of the winter camps (*c.* 46, 4) those among the Turoni and the Lemovices were farthest distant both from Nemetocenna and the assumed place of review. A courier to the first camp mentioned would have required perhaps six days, to the legions among the Lemovices eight to ten days, according to the location of the camp. The legions in the former country[102] going *via* Autricum, Lutetia, Durocortorum, would have had not far from 380 *m. p.* to travel, for which they needed as much as twenty-one marching days and

[98] If Caesar came by the Cottian Alps, a messenger meeting him beyond the Alps would have had 500 *m. p.* or more to travel.

[99] *C. I. L.*, XIII, pars I, fasc. II, p. 558.

[100] Drumann, *Gesch.*, III, p. 748; Schmidt, *Briefw.*, p. 378.

[101] *Briefw.*, pp. 162–65.

[102] von Göler (*Caesars gallischer Krieg*, I, p. 369) suggests Amboise as a probable site for this camp.

not less than three days for rest. The legions among the Lemovices were quartered near the frontier of the Arverni (*c.* 46, 4). If stationed in the northern part of the country of the Lemovices, by marching to the Elaver, then across to Decetia, Augustodunum, Dibio, Tullum, Augusta Treverorum, they would have had to travel, at a rough estimate, 385 *m. p.*, twenty-one plus three days; if quartered as far south as Argentat, as von Göler thought possible, they would have had 80 *m. p.* farther to march, a total of twenty-six plus four days. If all of the ten legions that occupied the winter camps of 51/50 were present at the review, the various items noted foot up from fifty-four days (12 + 10 + 8 + 24) to sixty-two days (12 + 10 + 10 + 30). But these ten legions included the first,[108] one of the two which Caesar gave up for the Parthian war, and the thirteenth, which took the place of the fifteenth in Cisalpine Gaul, the latter being the other legion taken from Caesar (*c.* 54, 1–3). The following considerations will show that the first and thirteenth legions could not have been present at the review.

It is certain that the first and fifteenth legions were as far south as Capua on December 2, the latest date at which Pompeius can have been authorized to assume command of them. The distance from Augusta Treverorum to Capua *via* Vienna, the Little St. Bernard, Placentia, Bononia, Rome, was nearly 1,170 *m. p.*; *via* Vienna, Cularo, Brigantio, Augusta Taurinorum, Genoa, Rome, nearly 1,120 *m. p.* At 18 *m. p.* daily, with eleven days for rest, the first legion needed from seventy-three to seventy-six days to reach Capua, without a stop at the Capital. If it be assumed, (1) that the legions in the territory of the Lemovices were quartered but twenty-four days from the place of review, (2) that the review occupied one day, (3) that the first legion started south the day after, (4) that it arrived at Capua in seventy-three days, a total of one hundred and twenty-eight days results (54 + 1 + 73) for events between the date of the augural election and December 2, without having allowed time for Caesar's journey through Cisal-

[108] This was its number in Pompeius's army. In Caesar's it was known as the sixth. Caesar's fifteenth became Pompeius's third. Drumann-Groebe, *Gesch.*, III, p. 707.

pine Gaul. The total time may be reduced to about one hundred and twenty days, if we assume that Caesar sent marching orders to the legions among the Turoni and Lemovices while on his way north. The sacerdotal election, as we have found, regularly followed the consular, the consular the tribunician; the earliest possible date of the tribunician election was July 14, of the consular July 17, of the augural July 20.[104] Between July 20 and December 2 there were one hundred and thirty days. This leaves but nine or ten days for Caesar's extended journey through his Cisalpine province, certainly too short a time. Sufficient time can not be gained for this purpose without impossible reduction of the estimates made above. It is highly improbable, too, that the first legion happened to reach Capua on the very day on which Pompeius was empowered to take command. Evidently the first legion did not march to the Treveran country. If the first did not, the thirteenth did not, for the sources indicate that the first and the fifteenth came down at the same time, while in *c.* 54, 3, the tense relation of *deducebatur* and *mittit* proves that the thirteenth marched to Cisalpine Gaul to replace the fifteenth in the same period of time in which the latter was withdrawn.

Where the first and thirteenth legions wintered in 51/50, or whether they wintered together, is not known; possibly together and in the country of the Lemovices. If so, the longest march of legions to the review would doubtless be that from the country of the Turoni. Allow the courier sent thither with marching orders six days, and the total time for the movements accounted for is fifty-three days ($12 + 10 + 6 + 24 + 1$), including one day for the review.

After the review Caesar placed Labienus in charge of Cisalpine Gaul (*c.* 52, 2). Caesar now heard frequently that his political enemies were in communication with his lieutenant with a view to depriving him of a part of his army (*c.* 52, 3). Caesar's friends in Rome, and perhaps others in the Cisalpine province, were probably sending one messenger after another, as their sharp watch over Caesar's interests put them in possession of information.[105]

[104] Note 54.

[105] Note 77.

Hirtius does not indicate whether Labienus was present at the review or was already in Italy at the time when he was placed in charge of the province. The frequency of the reports concerning him, together with the fact that the army remained in the Treveran country, probably, long enough to make it desirable to shift its camping ground from time to time, warns us that the period between the review and Caesar's final departure for Italy must not be made too short.

At last Caesar sent his legions into winter quarters, while he himself proceeded to Cisalpine Gaul (*c.* 54, 4–5). The distance from Augusta Treverorum to Augusta Praetoria *via* the Little St. Bernard was nearly 520 *m. p.* Caesar and his army had probably not moved far from the scene of the review in their changes of camping ground. The time necessary for Caesar's journey may be reckoned at eight days. The total time for the various estimates made becomes sixty-one days ($12+10+6+24+1+8$), exclusive of Caesar's tour of Cisalpine Gaul and of the period between the review and Caesar's final departure for Italy.

It must be admitted that such calculations as those made above run no little risk of error. The rates of travel in the case of Caesar, couriers, and legions, may have been, but probably were not, more rapid than assumed; orders to march to the Treveran country may have been despatched to the more distant legions while Caesar was enroute to Nemetocenna, although this is not the natural inference to be drawn from *c.* 52, 1, and was certainly not true of the legions at Nemetocenna; the place of review, too, may have been in the western part of the Treveran country, which would somewhat reduce the marching time of the legions quartered among the Turoni. On the other hand, the news of the augural election may have come to Caesar later than twelve days after the election; it has been assumed also that the review took place at the earliest possible date after the assembling of the legions; again, it is possible that a portion of the army did come from the country of the Lemovices and from a point as far south as Argentat. If it be granted, as may be done with due regard for probabilities, that Caesar sent marching orders to the legions farthest from the place of review while he was on his northward

journey, the sixty-one days made out above are reduced to approximately fifty-five. As a working hypothesis this number may safely be assumed as the minimum total time for the events thus far considered.

If Caesar arrived at Augusta Praetoria even as late as November 25, it becomes certain, on this score alone, that the current view as to the date of the augural election is untenable. According to that view the election was held later than the date of *Fam.* VIII, 12, and so not earlier than September 19. Between this date and November 25, inclusive, there were only sixty-six days, with two time allowances, certainly not short, yet to be made.

Previous evidence has fixed August 18 as the latest possible date of the augural election.[106] Between that date and the probable time of Caesar's second arrival in Italy, November 14, there were eighty-five days, leaving thirty days for the two items still to be accounted for, Caesar's journey through northern Italy and his sojourn with his army after the review.

Caesar's ostensible purpose (*c.* 50, 3–4) in visiting the towns of Cisalpine Gaul was political, with reference first to Antonius's candidacy for the augurate, and then to his own candidacy for the consulship of 48. But in view of the attitude of his political opponents he could not have been blind to the possibility of having to defend himself by an appeal to arms. In the event of hostilities he must at all hazards be able to count on the loyalty of his Cisalpine province, without regard to the difference in political status between the Cispadane and Transpadane regions. He certainly would not hesitate to enroll citizens with Latin rights in any new levies, and had probably done so in the years past. Even from a candidate's standpoint the Transpadane region was of some interest, since full Roman citizenship was possessed by the old Roman colony of Eporedia, and also by Cremona and Aquileia, which as Latin colonies had received full citizenship by the *lex Pompeia*[107] of 89. By virtue of the same law many other Transpadane communities had acquired the rights of Latin colonies.

[106] P. 308.

[107] Marquardt, *Staatsverw.*, I², pp. 61–62.

The latter recognized in Caesar a long time advocate of their advancement to full citizenship.[108] That Caesar should have slighted them in his triumphal progress through the province, is, in the light of all the circumstances, incredible. Hirtius (*c.* 50, 3ff.) clearly meant that Caesar visited both the Cispadane and Transpadane towns.

At the moment when Caesar learned of Antonius's triumph over Domitius he was still outside the bounds of Italy. Counting only from the Little St. Bernard, an itinerary including these towns along the main roads of Cisalpine Gaul would involve something like 1,050 *m. p.* of travel: Eporedia-Vercellae-Novaria-Mediolanium-Comum - Bergomum - Brixia - Verona - Vicetia - Patavium-Concordia-Aquileia-Ateste-Hostilia - Mantua-Cremona-Placentia-Bononia - Pistoria - Luna - Genoa-Dertona-Augusta Taurinorum. The purpose and circumstances of the journey make it improbable that Caesar traveled rapidly. Although the distance traveled may have been less than 1,050 *m. p.*, it is altogether likely that the time consumed was the greater part of a month. The necessity of allowing time, perhaps as much as for the tour of the province, for Caesar's stay with his army after the review, preceding his second trip to Italy, renders it practically impossible to date the augural election as late as August 18, and points rather to July as the month in which the election was held.

But the conclusion reached above raises a difficulty. It has been demonstrated by Sternkopf that *Fam.* VIII, 14, was almost certainly one of the letters which Acastus carried from Rome September 23.[109] Furthermore, the first section of the letter gives the unmistakable impression of having been written soon after the augural election, when that event was yet very fresh in the writer's mind, while the estimate of time for the items in Hirtius's narrative tends to push the election back into July. The solution of this difficulty lies ready to hand. In *Fam.* VIII, 12, 4, Caelius writes: *Conturbat me mora servi huius, qui tibi litteras attulit; nam acceptis prioribus litteris amplius dies quadraginta mansit.*

[108] Sueton., *Iul.* 8.

[109] P. 297.

The verb *attulit* is an epistolary perfect. In *prioribus litteris* we have a reference to no other than *Fam.* VIII, 14. Both that letter and *Fam.* VIII, 12, were carried by Acastus. Caelius wrote *Fam.* VIII, 14, in August and entrusted it to Acastus with the understanding that the latter would start soon. For some unknown reason Acastus lingered in Rome more than forty days. His delay in starting may account in part for the quick trip that he made eventually to the Piraeus.[110] *Fam.* VIII, 12, may have been written as late as September 23, or as early as the 19th. In *dies quadraginta* Caelius employs a round number; *amplius dies quadraginta* imply less than fifty days, at most forty-nine, and necessarily at least 41. If *Fam.* VIII, 12, be given its latest possible date, September 23, and if the more than forty days be taken as forty-one, the latest date at which Acastus can have received *Fam.* VIII, 14, is August 12. The earliest date lies forty-nine days back from September 19, *i. e.*, July 31. General probability is against either extreme. July 31 is improbable for the following reasons also. The earliest possible date of the augural election was July 20, leaving only eleven days to July 31 inclusive. The criminal process directed against Peducaeus probably required more than this amount of time.[111] In *Fam.* VIII, 14, 1, also, the manner in which Caelius cites Peducaeus's acquittal as a reason for hope in the case of Saturninus indicates that Caelius is not writing the very day of the acquittal. To give *Fam.* VIII, 14, the date July 31 would not leave time for the criminal process and for the probable interval between its conclusion and the writing of the letter. The comitial days in July after the 20th were the 22d and the 26th to the 31st inclusive. If the augural election occurred on the 26th, there remained seventeen days between that date and August 12, inclusive, probably sufficient to include the criminal process and to allow several days before Caelius wrote *Fam.* VIII, 14. But this places the writing of the letter and its delivery to Acastus on the latest possible date. As remarked, general probability is against either extreme. It is most likely,

[110] 21 days, *Fam.* XIV, 5, 1.

[111] P. 307.

therefore, that the election occurred July 20 or 22, and that *Fam.* VIII, 14, was written and entrusted to Acastus not earlier than August 5 and not later than August 10.

The date arrived at for *Fam.* VIII, 14, accords well with the history of the feud between Caelius and Appius.[112] The election of censors was probably held in July. About this time Caelius applied to Appius for money, regarding the latter as under obligations to him, possibly for services rendered at the time of Appius's trials for treason and bribery in the preceding spring.[113] Appius's refusal precipitated a quarrel, the bitterness of which may be imagined from the violent characters of the principals. At the inception of the quarrel, Caelius, remembering his own attitude towards Appius in the spring and his advice to Cicero at that time, felt some embarrassment in complaining to Cicero of Appius's conduct.[114] Nevertheless his state of mind is reflected in *Fam.* VIII, 14, 4: *Scis Appium Censorem, etc.* The earliest of the functions of newly elected censors was the *lectio senatus.*[115] Appius, in casting about for some means of attack on Caelius, in conjunction with Domitius, who, as Caelius would have us believe, held the latter chiefly or largely responsible for his discomfiture at the polls, conceived the idea of excluding Caelius from the senate.[116] Caelius, though much against his will, finally appealed for protection to Appius's colleague, Piso, with success. Soon after taking office Appius had issued a number of edicts, among them probably one directed at the scandalous practices legislated against in the *lex Scantinia.* Prosecutions on the basis of this law were already in progress, under the presidency of Drusus, at the date of *Fam.* VIII, 14 (*cf.* § 4). Appius, still abetted by Domitius, at last procured an accusation against Caelius under the *lex Scantinia,* which Caelius promptly answered in kind. The

[112] *Fam.* VIII, 12.

[113] *Fam.* VIII, 6, 1, 3, 5; III, 10; 11, 1–3.

[114] *Cf.* Caelius's words in *Fam.* VIII, 12, 1: *Pudet me confiteri et queri de Appio.*

[115] *Staatsr.*, II³, p. 415; *Le Sénat,* I, p. 240; Dio, XL, 63.

[116] In *Fam.* VIII, 12, 1, *conlegam* should undoubtedly be read instead of *conlegium.*

breach between the two men was now so wide that there was no occasion for further silence on Caelius's part. To the description of the quarrel he devoted an entire letter.

Fam. VIII, 14, contains no mention of the elections other than the augural. It is quite probable that the letter was accompanied by a *commentarium,* with full news not only of the elections, but also of the debate on pay for Pompeius's troops, of Curio's veto and subsequent withdrawal of the same, of Appius's edicts, of the processes instituted before Drusus under the *lex Scantinia,* and of numerous other matters of interest to Cicero. Caelius chose for comment, among the elections, only the one which interested him most because of his own part therein, and contented himself with a passing notice of the wisdom of Curio's action in withdrawing his veto.

VI

The general purpose of the long digression beginning in *B. G.,* VIII, 52, 4, has been commented on above.[117] It falls into three parts, (1) Curio's endeavors to effect a compromise between Pompeius and Caesar, with a specific attempt to secure a decree of the senate, (2) the action of the senate in the year 51, (3) the episode of the two legions. The second is a parenthesis within a parenthesis. All three serve to illustrate the implacable animosity towards Caesar of a political clique with Pompeius at the head. The first evidences the inclination of a majority of the senate towards peace, it being implied that the Pompeians dared not allow Curio's proposal to come to a vote (*c.* 52, 5); the same purpose is served by the second part (*c.* 53). The first and third illustrate Caesar's willingness to obey constituted authority and his desire for peace. That Curio's attempt to have a definite decree passed belongs to a date comparatively early in the year has been pointed out.[118]

These questions arise. What was the date of the decree with reference to the two legions? At what time did they come down from Caesar's provinces? What was the time relation between

[117] P. 316.

[118] Note 97.

this last event and Caesar's distribution of the remaining legions into winter quarters for the winter of 50/49?

At the date of *Fam.* II, 17, about July 17, Cicero knew that the two legions had been voted as reinforcements for Bibulus (§ 5). He knew it, as the context shows (*antea dubitabam*), before he learned of the withdrawal of the Parthians in the present summer. Sallustius, proquaestor under Bibulus in Syria, to whom this letter was addressed, had sent his orderly with two letters to Cicero, probably from Antioch, a journey of perhaps three or four days. In the first of these letters Sallustius had expressed doubt of the reality of the Parthians' withdrawal (§ 3). At the date of Sallustius's letter sufficient time had elapsed since the withdrawal, in Cicero's judgment, to convince a reasonable man of its reality. At the date of *Att.* VI, 5 (*cf.* § 3), June 26, Cicero did not know that the Parthians had gone. The date of their retreat may be fixed at about July 1; *antea* therefore refers to a period prior to that date. If Cicero knew of the senate's decree before July 1, it was probably passed not later than the first half of May. It may have been passed in April. Caesar was probably not informed of the decree before the middle of May, at the very earliest.

We do not know in what camp the first legion spent the winter of 51/50. The camp nearest Rome was in the country of the Aedui.[119] If stationed near Matisco the first legion had nearly 850 *m. p.* to Capua *via* Cularo, the Cottian Alps, Genoa, and Rome, or 890 *m. p. via* the Graian Alps and Bononia. It certainly reached Capua by December 2 at the latest. Both legions seem to have gone to Rome first, the first perhaps being joined by the fifteenth on the road. They probably remained at the Capital for a time before they were sent into quarters at Capua.[120] Even if they went straight through, the first must have started not later than early October. But the sources suggest a much earlier date for the bringing down of the two legions.

Dio's account[120] clearly implies a considerable interval between

[119] *B. G.*, VIII, 46, 4.

[120] Dio, XL, 65–66; App., *B. C.*, II, 29.

the arrival of these legions and their transfer to Pompeius. Plutarch[121] and Appian[122] voice the criticisms passed on Pompeius for failing to make due preparations against Caesar. Pompeius's sense of security is said by them to have been due in part to the statements as to the disaffection of Caesar's soldiers, made by the officers who returned with the first and fifteenth legions. Such criticisms involve the assumption that Pompeius had ample time in which to make preparations, and so favor an early date for the arrival of the legions. Sallustius in the first of his letters to Cicero had evidently expressed the hope that he would be relieved by his successor, Marius, in time to enable him to meet Cicero in Asia. Marius was to accompany the legions from Italy to Syria.[123] Cicero in letters to friends in Rome had repeatedly declared his intention of discontinuing his proconsular functions in Cilicia promptly at the end of his year's tenure of office, July 30. He had also been in communication with the members of Bibulus's staff. Sallustius had no apparent reason for thinking that Cicero would tarry long in Asia. In his reply, Cicero makes plain that he regarded Sallustius's hope of meeting him vain, in any case. But the proquaestor could not have conceived such a hope, unless the information which had come to Syria in regard to the two legions led him to think that they would be started on their journey very soon after the passage of the senate's decree; the first legion, if encamped in the Aeduan country, had 1,100 *m. p.* to Brundisium before it, and to this long march must be added the sea voyage. In like manner, Cicero evidently thought it possible, so far as the time element was concerned, that the two legions should have set sail for Syria before tidings of peace in the present summer could be carried to Rome; *cf. Fam.* II, 17, 5: *Si antea auditum erit otium esse in Syria.* News of the Parthians' retreat might reach Rome by the end of August, possibly earlier. In his description of the battle of Pharsalus Caesar speaks of these legions as having been delivered up by himself *initio dissen-*

[121] *Pomp.* 57, *Caes.* 29.
[122] *B. C.*, II, 29–30.
[123] *Fam.* II, 17, 5.

sionis.[124] He surely regarded the earlier part of the period subsequent to March 1, 50, as *initium dissensionis.*

The conclusion naturally to be drawn from the evidence examined, *viz.*, that the first and fifteenth legions, the first in particular, made an early start for Rome, derives some support from the fact that, even if Bibulus's need of reinforcements was a mere pretext, if Pompeius and his followers intended from the outset to keep the legions, it was to their interest to act in such a way as to seem sincere, by sending for the troops promptly. It might be that fortune would help them out later, as she did in the retreat of the Parthians, by furnishing an excuse for not despatching the legions to Syria for the present. The probability is that officers went to Cisalpine and Transalpine Gaul to bring these legions to Rome without undue loss of time following the senate's decree. If the first legion came from Matisco and left camp June 1, it may have come to Rome in the second half of July. It is not probable that it arrived later than the middle of August.

Between the date at which Caesar surrendered the first legion and the distribution of the remaining legions into quarters for the winter of 50/49 as many as five months may have intervened, June 1 to early November. Since the events of *c.* 54, 1–3, belong to the first half of the year 50, it follows that the narrative interrupted at *c.* 52, 4, is resumed, in fact, in *c.* 54, 4, with the words *ipse exercitui distribuit hiberna.* But the author fails to signalize resumption, the employment of *ipse* implying, rather, a close connection between its own sentence and what goes just before. The first and thirteenth legions, as we have found, came down about the same time.[125] Did Hirtius think of their departure as synchronous, or nearly so, with the assignment of winter quarters to the remaining legions? The circumstances attendant upon the withdrawal of the first and fifteenth legions from Caesar were surely too striking for Hirtius, who was with Caesar in 50, as he recalled the events of that year, to misplace by several months the date at which the first and thirteenth legions started south. His

[124] *B. C.*, III, 88, 1.
[125] P. 322.

failure plainly to indicate return to his main theme must be due to a careless literary technique.

Nissen thought that *fit deinde, c.* 54, 1, followed grammatically and logically on the preceding chapter.[126] So far as the chronological relations of events in the year 50 are concerned, the senate's decree with reference to the two legions was voted in the same period of the year in which Curio attempted to secure the decree disarming Pompeius and Caesar recorded in *c.* 52, 5.[127] It is highly probable that with *fit deinde* Hirtius intended to resume his notice of events that occurred in the spring of 50, the summary being interrupted by *c.* 53.

VII

What cause is to be assigned for the rumor, current in Rome between September 19 and 23, that Placentia would be occupied by four legions October 15? It could not have been the fact of Caesar's first journey to Italy, as he came in early August, not in September. May the rumor have been due to the movements of troops in or from Transalpine Gaul? The march of the thirteenth legion into Italy could not have been responsible, owing to the comparatively early date at which it came to Italy; and it was merely taking the place of the fifteenth.[128] Nor can the rumor be connected with the march of the legions to winter quarters after the review. The review can not have been held before October; and there followed a period of waiting before the legions scattered. The date of the march of the legions in this instance was too late to be responsible for the rumor. It must have been due to some cause operative during the time when the legions were still in the winter camps of 51/50.

If Caesar was to make such a move as the occupation of Pla-

[126] Ausbr., p. 71, 1.

[127] Note 97.

[128] Nissen (Ausbr., p. 70, 2) argues that the officers who conducted the first and fifteenth legions to Rome took them over in October, probably, and reached the city not before the middle of November, the time being attested by the fact that Caesar sent the thirteenth legion into Italy at the latter date; further, that to the coming of the thirteenth legion into Italy may have been due the rumor that Caesar was marching on the city.

centia, he would naturally be expected to draw the four legions from the camps nearest to Placentia, those in the territories of the Aedui and the Lemovices.[129] In that case it is certain that a part of the four legions would have to march 500 *m. p.* or more, from the Lemovices to Placentia. But it is possible that the first and thirteenth legions had been quartered in the two camps mentioned. The camp among the Turoni therefore comes into the reckoning. One or more of the four legions might then have as much as 600 *m. p.* to march. That the official class at Rome had sufficient knowledge of Transalpine Gaul and of the location of Caesar's camps to realize that the occupation of Placentia in the way anticipated involved from thirty-five to forty days of marching, is a not unreasonable assumption. The start of some of the four legions would thus be made as early, it might be, as September 5. This brings us to the period of time in which Caesar is very likely to have been on the road to Nemetocenna, after his visit to Italy. It may be regarded as certain that news of Caesar's triumphal journey through Cisalpine Gaul and of the enthusiastic reception accorded him drifted down to Rome while the journey was in progress. If so, it could scarcely fail to awaken surmises. Caesar started back across the Alps about September 1. This return journey also was probably reported in Rome. Under normal conditions the proconsul's trips across the mountains would constitute nothing extraordinary. But conditions were no longer normal. It is not difficult to believe that Caesar's return to Transalpine Gaul gave rise to a rumor that troops were to be brought into Italy and that Caesar had recrossed the Alps for this purpose. Such a rumor would be strengthened, if, as is credible, a report of the intended march of the army to the review got abroad in Cisalpine Gaul, for the destination could easily be distorted. The surprising thing in the rumor, however, is the definite date, October 15, set for the occupation of Placentia. It is tempting to think that this was the date by which, under Caesar's orders, the legions were to assemble for the review.

[129] *B. G.*, VIII, 46, 4.

VIII

It is plain from *B. G.*, VIII, 50, 1, that Caesar, before going to Italy himself in behalf of Antonius's augural candidacy, had set in motion the electioneering machinery of his Cisalpine province. It seems equally certain from § 2, taken in connection with § 1, that after Antonius arrived in Rome further news came to Caesar of such a character as to inspire his first journey to Italy: *Contendebat enim gratia cum libenter pro homine sibi coniunctissimo, quem paulo ante praemiserat ad petitionem, tum acriter contra factionem et potentiam paucorum, qui Antonii repulsa Caesaris decedentis gratiam convellere cupiebant.* Evidently he expected to arrive in time to be of assistance to Antonius. In order to effect his purpose of arousing the voters of Cisalpine Gaul, Caesar should have arrived by July 1 or even earlier. He actually arrived a month later. How did it happen that he came so late, when the usual time at which elections were held was well known?

Antonius came to Rome as early, possibly, as the middle of June. That he would stand for the tribunate was probably assumed in advance. But he also doubtless gave out soon after his arrival that he aspired to succeed Hortensius in the college of augurs. No *professio* was required of a candidate for a priesthood, that formality being replaced by a nomination in *contio* given by one or two members of the college concerned.[180] How long before the election this *contio* was held is not known. At all events Antonius was safe in announcing his intention in the matter before the *contio* was held, since there was at least one member of the augural college, Servius Galba, upon whom he could rely for nomination.[181] Naturally a determined opposition would soon be manifested. It would become apparent also that the contest was to be waged on strictly political lines. It was of importance to Caesar's prestige that Antonius should win. The opposition

[180] Note 64.

[181] C. Bardt, *Die Priester der vier grossen Collegien*, p. 26. Galba is mentioned as augur (probably) first in March, 49 (*Att.* IX, 9, 3). But he must have become a member of the augural college before the summer of 50, for his election along with Antonius would surely have called forth some comment from Caelius in *Fam.* VIII, 14, 1.

offered by the conservatives was greater, seemingly, than Caesar and Antonius had counted on: *Contendebat . . . contra factionem et potentiam paucorum, qui Antonii repulsa Caesaris decedentis gratiam convellere cupiebant.* Antonius may therefore be assumed to have despatched a courier to Nemetocenna. The augural election was held, let us say, July 20. Although no *professio* was required of candidates in connection with the priestly elections, it is nevertheless reasonable to suppose that the practice of issuing an edict a *trinundinum* in advance obtained for these elections as well as for the elections of magistrates. The *trinundinum* was at least seventeen days. The edict for the sacerdotal election in 50 would be issued not later than July 4. It is obvious that a message from Rome sent after that date could not bring Caesar into Italy by July 20, much less enable him to do any electioneering work and still leave time for the voters of his province to attend the election. Antonius's message was certainly sent before July 4. As soon as Antonius found from the election edict that his hope of further assistance from Caesar in the way indicated was impossible of fulfillment, it would have been natural to despatch another message to Caesar informing him of the actual date of the election, in order than he might waste as little time as possible on a fruitless errand. But it is evident that no such message was sent. The message that did intercept Caesar announced Antonius's victory. An explanation of this state of affairs may be conjectured.

At the time when Antonius sent his first message some of the elections, including at least the sacerdotal, perhaps also the consular, had not yet been proclaimed, and, for some reason no longer discernible, seemed likely to be held not earlier than the latter part of August. This late date would leave time to inform Caesar of the bitter fight in prospect against Antonius's candidacy and for Caesar to make further efforts, this time in person, to secure a large vote from Cisalpine Gaul. Caesar had intended all the while to make the round of the lower province which Hirtius describes and at a time not far from the period in which it was made. Antonius knew this. Compliance with a suggestion from him that Caesar come to Italy immediately would require the latter

to anticipate the projected date of departure from his headquarters at Nemetocenna by a comparatively short time. When the date at which the augural election was to be held became known to Antonius, the first courier to Caesar had been gone too long to make it possible for another courier to intercept him before he should be well on his way to Italy, if he had started promptly in response to the first message. As he was to come soon at any rate, there was no urgent reason for making an effort to inform him of the real date of the election. There was always the possibility, too, that a Roman election would be postponed after the date was set, and in that event Caesar might after all be in time to assist Antonius. The latter therefore waited until after the augural election, then sent a courier with the news of his successful candidacy for the tribunate and the augurate, of Galba's defeat for the consulship, and of the elation of Caesar's enemies over the election of consuls for 49 hostile to Caesar.

The second courier met Caesar beyond the Italian frontier, more than 560 *m. p.* from Rome, if he went by the Little St. Bernard. The meeting occurred probably not earlier than twelve days after the election, *i. e.*, not earlier than August 1. Caesar came from Nemetocenna *quam maximis itineribus.* He had traveled possibly 550 *m. p.*, having left Nemetocenna July 26 or shortly before. Antonius's first courier had to travel 1,150 *m. p.* from Rome to Nemetocenna, a journey of twenty-three days at the ordinary pace. He may have left Rome by July 1, or earlier, for it is not certain that Caesar did start at once in response to Antonius's summons.

Hirtius reports these happenings in such a way as to make it appear that the extended journey which Caesar made through Cisalpine Gaul was conceived only after he learned of Antonius's victory and of Galba's defeat.

IX

In *B. G.*, VIII, 52, 2, Hirtius fails to indicate Labienus's whereabouts at the time when Caesar gave him charge of Cisalpine Gaul. It was not till after this appointment, to judge from Hirtius's account, that Caesar was informed of his enemies' efforts to alien-

ate Labienus. From the nature of things these negotiations are not likely to have been carried on until Labienus was in Italy. It is probable that the review of Caesar's army occurred about the middle of October, and that Caesar left his army to go to Italy by the end of the first week in November. The time necessary for Labienus's journey to Cisalpine Gaul, if he had been present at the review, for the fact of his arrival to become known in Rome, for the discovery of the attempts to undermine his loyalty to Caesar, and for the journeys of couriers to Caesar sent to apprise him of these attempts, would much have exceeded the interval between the review and Caesar's departure for Italy. Labienus, we may conclude, had been in Cisalpine Gaul for a considerable time before he was given charge of the province. It can not be far from the truth to assume that the efforts to attach him to the cause of the Pompeians began, or at least took on a more serious character, at the time when the rumor with regard to the occupation of Placentia was rife in the city, near the middle of September, but were discovered by Caesar's friends only in time to inform him subsequently to the review.

X

If the conclusion reached in this paper as to the date of *Fam.* VIII, 14, is sound, some other emendation must be found for the corrupt passage in *Fam.* VIII, 12, 4, than the one usually adopted: *Scis Domitio comitiorum diem timori esse. Te (exspecto, etc.).* The reading of the Medicean is: *Scis Domitio diem tumorae est (exspecto, etc.).* The following emendations are suggested as possible: (1) *Scis Domiti odium timori esse. Te (exspecto, etc.).* Wrong division gave *Domitio dium, dium* then being altered, deliberately or inadvertently, to the familiar *diem;* the remaining words (*timori esse. Te*) are adopted from former emendations. The *tum* of *tumorae* might easily come from *tim* of *timori,* but final *ae* from final *i* is not so likely. (2) *Scis Domiti odium in tumore esse. Te (exspecto, etc.). Odium* may have been written in abbreviation, *odiu;* wrong division gave *Domitio; in* was mistaken for *m* and attached to *diu,* with the change of *dium* to *diem;* final *e* of *tumore,* as frequently happens

in the Medicean, gave final *ae; esse* was written in abbreviation, *ee,* which in conjunction with *t* of *te* gave *est,* final *e* of *te* dropping out before *e* of *exspecto.* (3) *Scis Domiti odium. Tu moraris. Te* (*exspecto, etc.*). *Is* of *moraris* together with *t* of *te* gave *est, e* of *te* dropping out; *tu morar* gave *tumorae.*

Of these emendations the second seems to me most plausible. In *Domiti odium* I see a reference to the feeling toward Caelius engendered in Domitius's mind by his defeat at the augural election.

XI. Summary

In the second half of May, before Antonius left his camp in Belgium to enter the contest for the tribunate at the coming election, word came to him and to Caesar of an actual or prospective vacancy in the augural college.[132] Antonius had coveted the place which Cicero secured in this college in 53 after the death of P. Crassus, but had stepped aside, as he professed, in deference to the orator.[133] The chance now offered to gratify his ambition. At the same time, a successful contest for the place would redound to Caesar's benefit, for it was inevitable, in the tense political situation of the year 50, that Caesar's enemies should vigorously oppose any candidate known distinctly to be Caesar's personal choice. Caesar therefore made known to the voters of his Cisalpine province that he desired a large attendance on their part at the election. They seem to have responded to his appeal, and were no doubt present at the tribunician and consular elections also.

About the same time that Caesar and Antonius learned of the vacancy in the augural college Caesar also received notification of the senate's decree requiring himself and Pompeius to furnish one legion each for the reinforcement of Bibulus in Syria. Pompeius demanded back the first legion, which he had previously lent Caesar, as his quota of the Syrian reinforcements. Caesar

[132] Lange (*Röm. Alt.,* III², p. 398) was right, I think, in deciding upon late April as the period in which Hortensius fell ill and early May as the period in which his death occurred. But his illness followed Appius's trial for *ambitus,* not the trial for *maiestas,* the latter having taken place in March, possibly; *cf.* Cic., *Brut.,* 64, 230; 94, 324; *Fam.* III, 11, 1.

[133] Cic., *Phil.* II, 2, 4.

promptly despatched this legion to Italy and gave orders for the fifteenth, which was quartered in Cisalpine Gaul, to be delivered over to the proper officers. He also sent the thirteenth legion down from Transalpine Gaul to occupy the posts from which the detachments of the fifteenth were to be withdrawn. The first and fifteenth legions came to Rome not later than the middle of August, possibly in the latter half of July. Excuses were found for not sending them on to Syria at once. By the close of August the retreat of the Parthians was probably known in Rome. The two legions were then, or later, sent into winter quarters at Capua.

In the meantime, Antonius had arrived in Rome, near the middle of June. The declaration that he, who had as yet held no higher office than the quaestorship, presumed to pit himself against Domitius, a consular, and a Domitius, too, as a candidate for the vacant seat of Hortensius in the augural college, together with the evident fact that Antonius must be regarded as Caesar's candidate, induced a more bitter contest even than Caesar and Antonius had looked forward to, a contest in which party lines were closely drawn. Antonius's interests were cared for by Curio in particular, who seems to have been plentifully supplied by Caesar with the sinews of political war.[134] When Antonius's ambition to succeed Hortensius first became known, the edict for the sacerdotal election had not been issued, and Antonius found reason to believe that the election would occur in the second half of August. A courier was sent to Caesar to inform him of the strong opposition to Antonius's candidacy, in order that Caesar might, if he saw fit, hurry to Italy and send the provincial voters to Rome in the greatest numbers possible. This courier left Rome July 1 or earlier. Caesar left Nemetocenna not far from July 26. On or about August 1, before arriving in Italy, he met another courier with the news of Antonius's election as tribune and augur, of the failure of Servius Galba to obtain a consulship, and of the increased confidence which his political and personal foes were deriving from the fact that two consuls of their own way of thinking would take office January 1 following.

[134] Note 133; Plut., *Ant.* 5.

The tribunician election had been held July 14, the consular on the 17th, the augural on the 20th. The elections of other annual magistrates and of censors were probably held on the remaining comitial days of July. Caelius Rufus supported Antonius for the augurate, influenced possibly by personal friendship both for Antonius and Curio, but also by the desire to make it easier to join the stronger side in the event of civil war. Early in August Caelius learned that Cicero's slave Acastus expected to leave the city soon to carry letters to his master. Caelius wrote *Fam.* VIII, 14, at some date from the 5th to the 10th and entrusted the letter to Acastus. The letter was probably accompanied by a fresh budget of news drawn up by the person whom Caelius employed for that purpose. Acastus did not leave Rome till September 23, taking with him then *Fam.* VIII, 12, in addition to VIII, 14, also letters from many other correspondents of Cicero.

Caesar arrived at Augusta Praetoria possibly as early as August 2 or 3. The remainder of that month was devoted to a trip through his Cisalpine province, which he had planned long before. The defeat of Galba and the increasing possibility that the dispute between Caesar and the senate would eventually call for the arbitrament of arms rendered it more urgent than ever that the most possible should be made of the tour in question. Caesar's visit in one town after another was doubtless heralded in advance, and there is no adequate reason for discrediting Hirtius's account of the enthusiasm displayed by Caesar's loyal provincial subjects.

At the beginning of September Caesar recrossed the Alps and proceeded to Nemetocenna. News of this return journey, preceded, as it surely had been, by a report of Caesar's journey through northern Italy, gave rise to a rumor in Rome that Placentia would be occupied by four legions October 15. The rumor may have been reinforced by a perverted report of the intended march of legions to the place of review. Caesar arrived at Nemetocenna September 10 or soon after. Despatches were sent from this place to the scattered legions, which were still in the winter quarters of 51/50, to assemble in the vicinity of Augusta Treverorum. In the case of the more distant camps, however, it is not improbable that this order was issued while Caesar was en-

route to headquarters. The review was held near the middle of October. Labienus had been stationed in Cisalpine Gaul for some time prior to the review. Caesar still had confidence in him, or, if he had obtained any inkling of waning loyalty, deemed it best to assume an attitude of confidence. In token of his faith Caesar instructed Labienus to take charge of the Cisalpine province, with the further task of promoting Caesar's interests as a candidate for the consulship of 48. Caesar remained with his army for a period of approximately three weeks, making occasional changes of camping ground.

In the meantime, beginning as early as the middle of September, the time at which it is probable that the rumor with reference to the occupation of Placentia was first current in Rome, efforts were being made by Caesar's enemies to draw Labienus away from his allegiance to Caesar. This fact was discovered in time to be reported to Caesar, while he was still with his army after the review, by friends in the city and possibly also by others in the Cisalpine province. November 7, or thereabouts, Caesar, accompanied by Hirtius, departed for Italy and arrived at Augusta Praetoria by November 14. He then busied himself with the provincial assizes.

At a date earlier by several days, possibly, than November 25, and before Caesar's arrival in Italy was known in Rome, a vote was taken in the senate on the question of appointing successors to Caesar and Pompeius. The senate voted affirmatively in the first instance, negatively in the second. Curio surely vetoed the vote inimical to Caesar. He then put the motion that both men be required to resign their armies and provinces, a motion which he had attempted to have a vote on earlier in the year, late in April it may be, then only to be stopped by a colleague's veto. The senate was now allowed to give expression to its sentiment in the matter and approved by a vote of 370 to 22. This decree, too, was doubtless vetoed by a tribune friendly to Pompeius, for it was never invoked, so far as known, in later discussions on the question of right between the contending parties. On November 25 it became known in Rome that Caesar was in Italy. But this bare fact formed the kernel of a rumor that he was about to march

upon the Capital with his army. The march of the four legions to winter quarters in the Aeduan country, if known in Cisalpine Gaul, may have contributed to the rumor. A meeting of the senate was called immediately, in which Marcellus proposed to take active measures to oppose Caesar. Failing in this and also in the attempt to subject Curio, who had prevented a vote on Marcellus's proposal, to a vote of censure, the consul proceeded to the suburbs of the city and authorized Pompeius to assume command of the two legions quartered at Capua and to defend the commonwealth. Pompeius signified his intention of accepting the duty imposed upon him, but with the qualifying condition, "unless something better be found."

A messenger was despatched to Caesar to inform him of the new turn that events had taken. Caesar had meanwhile journeyed farther down in his province. The messenger met him about December 1, at Mutina or Bononia. The political confusion had not yet reached such a degree as to render war certain, but it was the part of military prudence to prepare for the worst. Caesar therefore sent a courier to the eighth and twelfth legions with orders to march into Italy and directed the detachments of the thirteenth legion to assemble at Ravenna. The twelfth legion broke camp near the middle of December. Caesar also sent Hirtius to Rome to obtain a full report upon the situation. Hirtius found upon his arrival in the city the evening of December 6 that Pompeius was to depart for Capua the following day. Although Balbus was to confer with Scipio, Pompeius's father-in-law, before daylight on the morning of the 7th, Hirtius did not await the result of the conference, but started back to rejoin Caesar the night of the 6th. It is probable that Caesar had in the meantime gone on to Ravenna. Curio left Rome December 10 and joined Caesar at Ravenna on or before December 14.

ROBESPIERRE AND MIRABEAU AT THE JACOBINS, DECEMBER 6, 1790

BY CHARLES KUHLMANN

In the morning session of December 6, 1790, the national assembly passed a decree which, by implication, excluded inactive citizens from the national guards. Since, by an article of the electoral law of October, 1789, only persons whose annual tax amounted to the equivalent of three days' work were recognized as active citizens, the later decree virtually restricted the right to bear arms to the middle class. The earlier enactment deprived the lower classes of political rights; the latter was clearly intended to prevent them from securing by force what had been denied them by law. Such a policy naturally aroused the resentment of the radicals who found here their first opportunity to take definite issue with the majority. While the October decree was under discussion Robespierre and a number of others insisted that its adoption would convict the assembly of inconsistency. The declaration of rights proclaimed the equality of all men. How was it possible, therefore, to create distinctions between citizens by disfranchising a whole class? The objection was logically unanswerable and no attempt at direct reply seems to have been made. Robespierre asked another question, equally embarrassing, which likewise remained unanswered. If the payment of the equivalent of three days' work conferred the right to one vote, he demanded to know why those who contributed more than this amount should not be entitled to more votes.

It is probably not true, as some writers have held, that the assembly was in the habit of ignoring Robespierre out of contempt for him. But however that may be, in this instance it is not necessary to assume such a motive. It is obvious that the less said in reply to him the better, for to argue with him would only have

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made the inconsistency the more apparent. As matters stood in 1789 there seemed to be no immediate danger in the opposition from the small group of radicals because they possessed no means of coercing the majority. At the close of 1790, however, the situation had changed entirely. The agitators now found excellent weapons of offense in the Jacobin club and the sections of the city of Paris. The Jacobins at the latter period acted upon public opinion more potently than did the assembly. The large number of deputies among them had for some time menaced the independence of the legislative body but had now arrived at the point where their own position was threatened by the mass of non-deputies admitted into membership. The conservative Jacobin deputies did not dare oppose in their official capacities views formally approved at the society. Nor was the society an organization with an influence limited to Paris and the assembly. A motion carried at its meetings was usually submitted to hundreds of affiliated societies each of which was in turn a center of revolutionary activity. From these latter bodies then issued resolutions and addresses to the public and the assembly demanding legislation in line with the original motion. The Jacobins themselves were usually given a sort of mandate to see that the demands were complied with. It was a system now well understood by every intelligent Frenchman.

Robespierre was, therefore, following a well-beaten path when, on the evening of December 6, 1790, he appeared in the Jacobin tribune with a long written discourse upon the organization of the national guards. The assembly had voted against his cherished views that morning but his cause was by no means hopeless if he could prevail upon the Jacobins to stand by him. Many of their members were already dissatisfied with the course of the conservative deputies in the society and were beginning to listen with approval to more radical counsel. He succeeded in carrying almost the whole of the society with him. A storm of applause greeted his speech and it was evident that unless his arguments could be overcome in a conclusive way he would experience no difficulty in passing a motion placing the society on record as formally opposed to a decree of the assembly. Such action on the

part of the Jacobin club would have obtained a national hearing for Robespierre and since the drift of revolutionary opinion was now toward radical measures there is little doubt of the support he would have received. We shall see presently that to those who were able to look below the surface of things his speech presaged a dangerous agitation, if not something more serious. But if no one in the assembly had dared to answer him with practical argument in 1789, when the disfranchisement of the poorer classes was decreed, who would have the temerity to undertake it now and at the Jacobins? The society would have refused to listen to him. Before, however, an opportunity arose for reply a diversion came in the most dramatic fashion and made an answer unnecessary. Mirabeau, who presided, brought Robespierre to an abrupt halt by reprimanding him for criticizing a decree of the national assembly. This had the effect evidently desired by Mirabeau in finally bringing Robespierre's speech to a sterile close, but it brought down the society like a swarm of angry bees about the ears of the president. Camille Desmoulins, a special friend of Robespierre, describes the scene as follows:

Who would not have shared the holy indignation expressed in the evening in an admirable speech of Robespierre at the Jacobins? The applause which greeted him and which constituted such a strong censure of the decree of the morning, appeared to alarm Mirabeau, president of the society. He dared to call Robespierre to order, saying that none was permitted to criticize a decree once rendered. This interruption excited a great uproar in the assembly already indignant because of the attempt made to deprive non-active citizens of the right to wear the uniform. Is there anything more tyrannical than the silence Mirabeau imposed upon Robespierre and the reason alleged for it? There was not a peasant or truck-woman in Attica who would not have laughed in the face of Mirabeau had he chanced to say that it was not permitted to speak against a decree. The tumult lasted for an hour and a half. Mirabeau, seeing that the voice of his bell had been smothered and that he could not speak to the ear, determined to speak to the eye, and in order to attract attention by an unusual procedure, in place of putting on his hat as is done by the president of the national assembly, he stood up in his chair and exclaimed "Let all my co-deputies surround me," as if the question had been to protect the decree in his person. Immediately some thirty honorable deputies gathered about Mirabeau. But on his side Robespierre, always so pure, so incorruptible, and in this session so eloquent, had about him all the true

Jacobins, all the republican souls, all the élite of patriotism. The silence which neither the bell nor the masterly action of Mirabeau was able to secure, Charles Lameth with his arm in a sling succeeded in restoring. He mounted the tribune and while praising Robespierre for his love of the people and calling him his very dear friend, he nevertheless censured him somewhat harshly and pretended like the president, that no one had the right to pass sentence upon a decree whether sanctioned or not. But M. Noailles conciliated the two parties by maintaining that the decree did not have the significance attributed to it; he had been present in the committee on the constitution when this article was under discussion and neither he nor the committee had understood it in the sense of M. Charles Lameth and of Mirabeau. The difficulty being removed, the president again gave the floor to Robespierre, who ended his address as he had begun it, in the midst of applause.[1]

Substantially the same facts, without Desmoulins's embellishments, are recited in the *Patriote français* of Brissot with the added detail that Robespierre had almost concluded when interrupted.[2]

Unquestionably Mirabeau did not, as assumed by Desmoulins and Brissot, base his reprimand upon some general principle drawn from the bottomless depth of the reigning philosophy. On the contrary, he was doing a duty explicitly imposed upon him. The rules of the society forbade any member to express views opposed to the constitution and the spirit of the society which was supposed to be always in accord with that of the national assembly.[3] Nevertheless, it is not at all likely that this was Mirabeau's

[1] *Révolutions de France et de Brabant,* No. 55.

[2] *Patriote français* of Dec. 7, 1790. Aulard in *Société des Jacobins,* vol. I, pp. 403–05, has reprinted the accounts of the session as given by Desmoulins and Brissot.

[3] The society announced, in the preamble to its constitution, that one of its chief aims was to make known and to popularize the work of the assembly. Article IV. of the constitution itself reads as follows: "Lorsqu'un membre de la société sera convaincu d'avoir manifesté, soit verbalement, soit par écrit, et à plus forte raison par des actions, des principes évidemment contraires à la constitution et aux droits des hommes, en un mot à l'esprit de la société, il sera, suivant la gravité des circonstances, réprimandé par le président, ou exclus de la société, après un jugement rendu à la majorité des voix." Aulard, *Société des Jacobins,* vol. I, pp. xxviii–xxx.

real reason for intervening. He was a Jacobin in name only[4] and regarded the society as one of the chief obstacles in the way of his plans for the restoration of royal authority.[5] The society had not been very punctilious in observing its rules of discipline and as Robespierre's infraction of them was met with applause Mirabeau, who certainly foresaw the storm of protest his intervention would arouse, might have permitted the incident to pass without notice. Moreover, Robespierre's course threatened to bring the Jacobins and the national assembly into conflict and as it was part of Mirabeau's secret plan, at this time, to unpopularize the latter,[6] it would seem that Robespierre was playing directly into his hands when he launched an appeal to the whole of France against the disregard of the fundamental doctrine of the equality of man on the part of the assembly. On the other hand, since the drift toward ultra-radicalism shown by Robespierre and the group to which he belonged, could not fail to lead to a clash with the conservatives in the society, especially with the Lameths, whom Mirabeau very much detested, what better could the latter have done than permit Robespierre to continue uninterrupted? From his point of view a schism in the Jacobin club was a thing greatly to be desired.[7] It was, moreover, his fixed principle never to do the unpopular thing unless it was absolutely necessary and unless the object justified the loss of popular favor involved in it.[8] It would

[4] Until October, 1790, Mirabeau does not seem to have been very regular in his attendance at the Jacobins. He fell out with them during the discussion in May over the right of declaring war and making peace and since, in this controversy, he defeated the plans of the society he drew upon himself some of the most violent invectives of the Jacobin press. He had previous to this joined the "Club of '89" which he now continued to frequent in preference to the Jacobins. On October 6, 1790, he returned to the latter society.

[5] For his real attitude toward the society see his notes to the court published in the *Correspondance entre le Comte de Mirabeau et le Comte de La Marck*, by Bacourt, 3 vols., Paris, 1851.

[6] Forty-seventh note to the court. Bacourt, II, 414 ff.

[7] Many of his notes to the court express this idea.

[8] He could upon occasion brave the dangers of physical violence as in the discussion over the question of the right to declare war and make peace and again in February of the following year when he opposed the

appear, then, that his motives in this case were extremely complex and as usual well concealed. They are to be found not in the criticism of the decree of the assembly, but in the first part of Robespierre's speech dealing with the organization of the national guards aimed, as we shall see in a moment, first at the destruction of the power of Lafayette and in the second place at the introduction of the Parisian populace into the guards.

The two passages cited above from the papers of Brissot and Desmoulins do not inform us of the nature of Robespierre's plan for the organization of the guards.[9] But in the *Bulletin de Brest* we find an account of a Jacobin session of which the exact date is not given.

The Jacobin club (so runs the account) is occupying itself with the organization of the national guards. M. Robespierre read a much ap-

Jacobins in their efforts to secure a law against emigration. For the latter instance, see the discussion in the Jacobin club on Feb. 28, 1791, in Aulard, *Société des Jacobins*, II, pp. 95–113.

[9] Lc/1459, in the national library at Paris bears the title "Discours sur l'organisation des gardes nationales. Par Maximilien Robespierre, membre de l'Assemblée Nationale. 1791." This is a pamphlet of seventy-eight pages and contains the provision for a rotating command of the guards mentioned below by the *Bulletin*, no officer being permitted to hold command longer than six months and never to command the guards of more than one department. The armed man, he says, is always the master of the unarmed and a state in which a large armed force perpetually exists in the midst of an unarmed populace is never free and the stronger the discipline in the army the more certain is the destruction of freedom. The national guard must be the whole nation without distinction of class and without property qualifications, for no one can be deprived of the right of self-defense nor do the sacred rights of liberty depend upon the ownership of a certain amount of property. Although the people themselves have made the revolution its fruits are to be reserved to an ambitious class seeking personal advantage, but this class will be unceremoniously swept aside.

What relation exists between this printed speech and the one delivered at the Jacobins we do not know, but it will be noted from the parts we have here repeated that the printed document preserves the core of the speech read at the Jacobins as retained by contemporaries. It contained many other important observations and was upon the whole closely reasoned in favor of the ideas of those who were possessed by an excessive fear of the military power as a means of overturning the work of the revolution.

plauded project supported also by Dubois de Crancé. According to this project the national guards of Paris are no longer to have a commander in chief. Such great power in the hands of a single chief appeared to be too dangerous. Each commandant of a battalion is to be general in turn and this division of power will serve as a check upon anyone disposed to abuse it.[10]

That the *Bulletin de Brest* here refers to the session of December 6 is proved by an obscure passage in the *Feuille du jour,* an opposition paper, which mentions Robespierre's speech, Mirabeau's interruption, the uproar which followed and the explanation made by Vicomte de Noailles.[11]

This makes Mirabeau's action at first sight more puzzling than ever, for his quarrel with Lafayette was notorious and is now usually considered as a historical fact of considerable importance. The radical Jacobins had for some time lived in terror of Lafayette, whom they believed upon the point of making himself military dictator. Many times already their speakers had filled the Jacobin tribune with loud denunciations of the general and on November 12, 1790, when Carra was delivering one of these tirades of unusual violence, Chabroud, who was then president, called him to order, saying that it seemed to him inappropriate that a deputy holding such an honored position should be attacked at the society. This caused a commotion just such as Mirabeau experienced on December 6. While Chabroud's case against Carra was not so definite as that of Mirabeau against Robespierre, his point was certainly well taken. Upon this occasion, however, Mirabeau could not resist the temptation of doing Lafayette an unquestionable injury. He joined the clamoring mob against Chabroud, whom he declared to be in the wrong and maintained the right of anyone to criticize whomsoever he pleased, which was not at all a refutation of Chabroud's point.[12] On December 6, then, Mira-

[10] No. 142, Dec. 12, 1790. This was a newspaper based upon the correspondence of the deputies of the Sénéchaussée of Brest with the bureau of correspondence at Brest.

[11] No. 13, 1790.

[12] For this session of the Jacobins see the *Mercure national* of Robert, No. 41, Nov. 23, 1790. Also Arthur Chuquet, *Paris en 1790. Voyage de*

beau not only contradicted his own precedents, but acted squarely contrary to what his plans at the time seemed to require.

The explanation for this apparently inconsistent course is to be found in a more exact determination of the real convictions of Mirabeau with reference to Lafayette. There is very good reason to believe that many of his strictures on Lafayette were not made in good faith. At the Jacobins he fell in with the prevailing cry because it would strengthen his position in the society and enable him to carry on his campaign against the Lameths to better advantage. In spite of all the anathemas Mirabeau heaped upon Lafayette in his letters to the court, he did not really fear him as a military dictator, for of the guards he expressly stated that they were not numerous enough to hold out against a revolutionary uprising and not sufficiently disciplined or not sufficiently attached to their commander to make them a ready instrument in his hands. He recognized merely the fact that Lafayette's command of the guards inspired fear at court and that he was strong enough to circumscribe the movements of the king upon whose conduct he thus exercised a pernicious influence.[13] Upon the whole, however, Lafayette was to be feared only so long as he acted with the military under his control. In his first note to the court, dated June 1, 1790, Mirabeau goes into this subject fundamentally and concludes that Lafayette's power rested exclusively upon Paris and the guards of Paris. The capital, notoriously the most turbulent and radically revolutionary of any part of the kingdom, dominated Lafayette who would in every instance be constrained to follow its lead and in that way become its instrument in subjecting the executive and the rest of France to its control. Then Mirabeau asked:

> What does it mean, therefore, to give the ministry to M. de Lafayette? It would mean that the whole kingdom would be forced to act in unison with Paris, whereas the sole means of safety is to bring Paris back (to sanity) by means of the kingdom. It would mean that M. de Lafayette, joining to his own resources all the influence of the executive power,

Halem. Paris, 1896. Letter of Halem of Nov. 12, 1790. Halem was present at this session.

[13] Forty-seventh note to the court. Bacourt, II, 414 ff.

would become, whenever it should please him, head of the army, commandant of the national guards, lieutenant general of the kingdom, distributor of all favors and first minister with ministers as clerks (*commis*), that is to say, being at the same time slave and despot, subject and master, he will be the most redoubtable of tyrants.

Then, after explaining how a ministry independent of Lafayette would serve to destroy his present influence, he continued:

But such a man, limited to the command of a body of national guards, subordinated to the municipality of Paris, under the eye of the legislature, and without the favor of the king, would never become formidable to good ministers, strong in all the authority of the national assembly which they would understand how to direct and of which they would be the civic and revered professors and not the mutinous and rebellious disciples, would know how to employ every means of leading public opinion. Then, if he were merely ambitious, he would abandon his place of his own accord; then his most ardent adherents, deceived in their hopes, would be the first to abandon him; then the so-called hero would vanish.[14]

In this very connection it is to be noted that until the close of 1790 Mirabeau had not found in the composition of the ministry anything to encourage him in the belief that a better time was approaching. In October he had done his share in the work leading to the overthrow of the old Necker ministry.[15] But here again he was profoundly disappointed. Montmorin, the very man, whom, after Necker's resignation, he most detested as the creature of Lafayette,[16] had been spared and of the new ministers appointed, despite all his protests and warnings, one, at least, was regarded as Lafayette's man.[17] Hence, although the special adviser of the court, he still saw himself without direct influence in the government, while his rival preserved his position of advantage. At last, however, the private counsellors of the king and the queen became convinced that if he was to be of any use to them he must be allowed to act in concert with the ministry, that

[14] Bacourt, II, 25–32.

[15] On October 28, 1790, La Marck wrote to Mercy-Argenteau that Mirabeau had provoked the attack upon the ministry. Bacourt, II, 283.

[16] Thirty-eighth note to the court. Bacourt, II, 274–80.

[17] La Marck states that Duportail, who was made minister of war, was one of Lafayette's devoted friends. Bacourt, I, 229.

is, permitted to take an actual part in executing ideas and advice hitherto merely addressed to the court, and there quietly buried, for the most part.[18] To this plan Montmorin was prepared to lend himself and on December 5, 1790 (mark the date), held a long conference with Mirabeau in which he succeeded, to all appearances, in making his peace with the latter. He told him among many other things that his alliance with Lafayette had become intolerable. He assured him that Lafayette was ambitious not so much of real power as of the appearance of possessing it, that as a matter of fact he no longer exercised any influence in the ministry and that, since he had exhausted his fortune, he could no longer buy support—could not even retain his aides—should he, Montmorin, abandon him altogether. Although Lafayette cared only for himself and had betrayed all parties with whom he had had dealings, Montmorin did not wish to injure him nor see him displaced as commander of the national guards, at least not until a suitable successor could be found. He closed by inviting Mirabeau to draw up a plan of campaign in the interest of the royal authority; in short, asked him to take the very place he had so long coveted as next best to that of leading minister.[19]

According to Mirabeau's views, this changed the whole situation as regards the attitude to be assumed toward Lafayette. The sole condition which made his rival formidable no longer existed. When, on the following evening Robespierre came forward with a plan which promised finally to oust Lafayette from his command of the guards Mirabeau naturally did not feel like aiding in the attempt as he had usually done. Montmorin had even permitted him to see that the government was embarrassed over the question of finding a successor and it seemed to be his duty to forestall a too hasty retirement of the present commander. In a note to the court on January 17, 1791, he himself expressed anxiety at the

[18] Bacourt, I, 165-66. In his thirty-sixth note to the court Mirabeau himself insisted upon the necessity of a ministry with which he could act in the execution of his plans to increase the king's authority. Bacourt, II, 264.

[19] Forty-seventh note to the court, Dec. 6, 1790. Bacourt, II, 386-95.

rapid decline of the power of Lafayette and spoke of the possible necessity of doing something to check it.[20]

But there were other and very powerful considerations which justified Mirabeau in departing from his usual method and opposing Robespierre at every hazard. These were found in the threatening attitude the sections and the populace of Paris were beginning to assume and the evident intention of the radicals to force themselves to the front by making use of these elements. But as long as the sections were composed of the middle class, exclusive of the inactive citizens, it was necessary to reckon with Lafayette and his middle-class guards who had no special sympathy with the class below them. Had Robespierre been able to render his views effective, he would not only have displaced Lafayette, but in all probability inaugurated a new revolution, for he would have swamped the guards as then constituted with a flood of members who would certainly have been at the disposal of those who had championed their cause in the assembly, in the press and in the political clubs. These radicals, whom we have several times mentioned, did not yet appear as an organized group, but they were clearly working toward the same end and in the Jacobin club favored the same tendencies. Besides Robespierre, they counted among them as prominent individuals Pétion, Fréron, Carra, Robert, Buzot, Brissot and later Camille Desmoulins, Lanthenas and Madame Roland. It was probably due largely to the two last named that this group finally gained consistency as a party with clearness and definiteness in their aims. But to show how they intended to arrive at their object it is necessary to return for a moment to the sections of Paris and the manner in which they were constituted.

As is well known, Paris had become practically independent as a result of the revolution of July, 1789. During this period the sixty electoral districts had become organized as deliberating bodies which several times showed a disposition to interfere in the work of legislation after the assembly removed to the capital, following the disturbances in October of that year. This frightened

[20] Bacourt, III, 9–12.

the majority of the deputies so that in the municipal law of May, 1790, Paris was redivided into forty-eight sections whose assemblies were virtually restricted to the electoral function. On this occasion, as might be supposed, Robespierre protested against this policy of stifling political activity, for he wished to leave the people an organization enabling them to act officially and directly upon legislation. In other words, he wished to continue the conditions which had frightened the more conservative deputies and leave the assembly at the mercy of every impulse that swayed the mob in Paris. How well all parties understood what was involved in this is shown by the answer Mirabeau then made to the arguments of Robespierre. "Strong in my principles and the testimony of my conscience," he said, "I shall refute two opposing opinions without seeking perfidious applause (designating the right which had espoused Robespierre's views because they thought the permanency of the sections would interfere with the work of the assembly) and without fearing the tumultuous clamors" (designating the left). He declared the permanent sections desired by Robespierre a monstrosity. Camille Desmoulins, on the other hand, exclaimed in his newspaper, "All the republicans are in consternation at the suppression of the sixty tribunes of our districts," when he learned that the assembly had decided against the permanency of the sections.[21]

Notwithstanding the recognized importance of the subject, the law was left somewhat obscure and presented a means by which its spirit, if not its letter, might be evaded so that under the pressure of events and at the instance of political agitators the old evil soon returned. The Jacobin club was guilty during the ministerial crisis in October, 1790, of a motion to appeal to the sections asking them to circulate a petition demanding the dismissal of the ministers after the assembly had failed to pass a vote of lack of confidence. At this session (October 20) Mirabeau appeared in time

[21] The text of the law is found in Ernest Mellié, *Les Sections de Paris* (Paris, 1892), 9–12. A summary of the discussion is given by Sigismond Lacroix, *Actes de la commune de Paris pendant la révolution*, second series, vol. 1, Introduction.

to defeat this motion by one of his renowned "oblique" marches and thus checked this dangerous tendency for the moment.[22]

The overwhelming influence of Paris on the revolution has long been recognized, but, until quite recently, the conditions which made its insurrectionary movements possible had not been sufficiently studied. The party leaders, however, even during the period of the first assembly understood not only the dangers from this source, but were conversant as well with the methods by which the multitude could be set in motion. At the close of 1790, three different parties were maneuvring for the control of this field. The old Jacobins, represented by the comparatively moderate party of the Lameths, we have just mentioned as appealing to the sections for support against the ministry. Openly working against this party was the newly organized "Society of the Friends of the Monarchical Constitution," composed of men w[illegible] opinions may be said to have found a sort of mean representation in conservatives such as Malouet and Clermont-Tonnère. They stated in their journal, a newspaper intended for general circulation, that they were urging their members diligently to attend the sessions of their respective sections. This statement, combined with the announcement that their society owed its existence almost solely to the fact that in their opinion it had become positively necessary to meet the Jacobins upon their own ground and with their own weapons, must be taken to mean that this was to be done as a party measure. Besides busying themselves with the assemblies of the sections the Monarchical society opened a bureau of subscriptions the proceeds of which were expended on bread-tickets distributed to the poor, enabling them to obtain bread at half the

[22] Bacourt, II, thirty-sixth note to the court. Oct. 24, 1790. Chuquet, letter of Halem, Oct. 26, 1790.

Although Mirabeau dissuaded the Jacobins from appealing to the sections in this instance, the sections themselves, whether encouraged by the discussion at the society or not, continued the agitation until on November 10, a collective address was presented to the national assembly by a deputation reluctantly headed by Bailly, the mayor of Paris. Danton was the real speaker of the deputation. This whole subject is fully treated by Lacroix in *Actes de la commune de Paris*, second series, vol. I, 21[illegible]-32.

market price.[23] This was looked upon as a bribe and was so denounced at the Jacobins. Its too evident intention was to buy the support of the poorer classes who, under ordinary circumstances, would have been very susceptible to this sort of appeal. The mere undertaking proves that the radicals were not alone in comprehending the political importance of this class, "the two hundred thousand beggars of Paris," as Michelet puts it. Had the Monarchical society handled this affair with a little more skill, they might have become dangerous rivals to Robespierre and his partisans, but they made a fatal mistake at the very beginning by seeking to distribute their bread-tickets through the medium of the sectional assemblies where the middle-class Jacobins still controlled. Now while this faction of the Lameths through their influence in the Jacobin committee on correspondence would not affiliate associations of the lower class, they were still less inclined to permit them to be made the backbone of resistance on the part of their avowed enemies.[24] They therefore made a direct appeal to the sections for the suppression of the new society, so that from the Jacobins the denunciation went to the municipality through the sections which gave it a sort of legal form. The municipality was weak enough to yield and ordered the Monarchical society to suspend its sessions. The society complied under protest, after it had experienced a siege of the mob which succeeded in breaking up one of its meetings. Under repeated demands for a hearing of its case, the order of the municipality was finally revoked,[25] but the society had already perceived that neither

[23] Our best and most complete information regarding this society is found in the *Journal de la Société des amis de la constitution monarchique*, edited by M. de Fontanes (Bib. nat. Lc2/491). This is the official journal of the society. Sigismond Lacroix, in vols. I and II, has collected most of the evidence to be had with reference to the society.

[24] A very instructive article concerning these popular societies and their relation to the Jacobins is reprinted by Aulard from the *Patriote français* of Brissot. It is in the shape of a letter from Lanthenas. *Société des Jacobins*, II, 147–51.

[25] The obscurity hitherto surrounding this subject has been thoroughly cleared up by Lacroix in *Actes de la commune de Paris*, second series, vols. I and II. See the *Éclaircissements* for December, 1790, and January, February and March, 1791.

in the sections nor among the poor was it possible to gain a foothold against the Jacobins. They had, in fact, merely furnished the party of the Lameths an occasion for a new outbreak of violence by which they sustained themselves a little longer at the head of the Jacobins.

The failure of the Monarchical society's charity program furnished a valuable object lesson to those interested in the lower class of society. As long as these people were excluded from the national guards, it was impossible to reach them effectively, except through the sections with the officers of which they were bound to come into some sort of contact. For obvious reasons, the press could not influence them very much. The political agitator, therefore, who wished to base his power upon this class was greatly handicapped because he had no ready means of communicating with his adherents. This difficulty would have been in a large measure overcome had Robespierre succeeded in having them admitted to the national guards. They could then have been reached as effectively as the actual guards were reached by the Jacobins in their endeavor to overthrow Lafayette.[26] This problem was finally solved for the radicals by the formation of a large number of political societies among this class.

We have seen from the paper of Desmoulins that it was not Mirabeau but Charles Lameth who quieted the Jacobins aroused over the reprimand administered to Robespierre. This is another interesting contradiction of this remarkable session of the society. Like Desmoulins the Lameths had really penetrated Mirabeau's disguise. If they possessed no definite proof of his connection with the court they did not fail to see the object toward which all his efforts tended. But the Lameths had arrived at the turning of the road. To continue their reckless course, they foresaw, meant destruction. They stood at this moment perplexed over

[26] In his forty-seventh note to the court, Mirabeau wrote: "C'est sous une infinité de rapports que je considère la garde nationale de Paris comme un obstacle au rétablissement de l'ordre. La plupart de ses chefs sont membres des Jacobins, et, portant les principes de cette société parmi leurs soldats, ils leurs apprennent à obéir au peuple comme à la première autorité." Bacourt, II, 418.

the question of their retreat, knowing full well that, at the first sign of weakening, their numerous enemies, right, left and center, including Mirabeau, would fall upon them and make an end of their influence. They made up a faction rather than a party and in their private beliefs were not now so very far removed from the men who had organized the Monarchical society and wished to restore some force and authority to the executive. Hence, although they were known to be hostile to Mirabeau they felt themselves menaced much more from the radicals below them with whom they were to all outward appearances in perfect accord. This fact did not altogether escape contemporaries.[27]

[27] The *Feuille du jour* of December 12, 1790, made the following analysis of the situation at the Jacobins at that time: "L'esprit de division s'introduit de plus en plus, aux Jacobins. L'ambition profonde et calculée des uns, la démence incroyable des autres, rendent vraisemblable une scission très-prochaine. En effet, si nous recherchons les caractères et les intérêts de cette société, que pourrons-nous présumer? Que M. Barn[ave], par exemple, ayant acquis le sentiment de ses talens et de ses forces, reconnût qu'il est temps, au moment où la révolution est consommée, qu'il laisse un intervalle immense entre ses faibles agens et lui. Quelles peuvent être ses vues? de continuer à jouer un rôle important dans l'opposition, et d'arriver au ministère. Il est trop éclairé pour croire que les choses en resteront au point où nous les voyons. Si ses démarches ostensibles sont encore mesurées, pour ne pas donner d'échec à sa popularité, ses opinions particulières sont toutes pour la constitution et l'ordre, tandis que tout ce qui l'entoure croit abonder dans son esprit, en désirant l'anéantissement du trône et l'anarchie. Son ami Lam[eth] sans posséder la facile éloquence du premier, a très-éminemment cet art, ce talens qui, joint au caractère, fait toujours un grand parti dans une assemblée. M. Dup[ort] aussi dangéreux dans l'ancien régime qu'il peut être utile dans celui-ci, bien loin de s'éloigner de leurs opinions, les affermit encore. En un mot, ces trois acteurs essentiels de la révolution ne cherchent plus qu'un moyen adroit de quitter l'air de factieux, pour ne montrer que des hommes d'état, et peut-être pour en mériter la gloire.

"Si je compare ensuite avec eux la conduite de quelques-autres membres du club des Jacobins, qui s'agitent entre l'espoire d'un coupable succès et l'impuissance même d'ajouter au mépris qu'on a pour eux, on verra que la rupture est certaine, et qu'il faut qu'elle s'accomplisse incessement."

The party here mentioned as opposed to that of the Lameths was, of course, that of the radicals to which Robespierre belonged. The rupture here anticipated did not occur until the following May.

We have shown above why Mirabeau, from having been a relentless critic of Lafayette, suddenly became his protector. Two passages from the *Orateur du peuple* of Fréron illustrate the manner in which he passed from one rôle to the other. On the evening of December 3, this paper recounts, Lafayette sent one of his aides to the Jacobins because he suspected that he would be denounced. As this individual, Lacombe, was not a member of the society the censors refused to allow him to remain. After he had departed, Barnave and Mirabeau fell upon Lafayette in the usual fashion. Then someone read a pamphlet atrociously libelling the Lameths, D'Aiguillon and Robespierre. Against this no one made any protest, but when Lafayette's name also was brought in a commotion was created. The *Orateur du peuple* says:

> At that moment these adoring hydrophobes began their howling according to their tactics in order to drown the voice of the reader and prevent the truth from being heard; it was then that Riquetti (Mirabeau) exclaimed with the full power of his lungs, "What, gentlemen! When names dear to the country are in question you do not interrupt the speaker, and you are pleased to cry scandal when they name whom! Good God! Lafayette!" It was also Mirabeau who, when the military almanac in which the sieur Motier (Lafayette) is named generalissimo of the national guards of the kingdom, was under discussion, and which almanac was also denounced, said at the same assembly: "Is Lafayette then mayor of the palace?" In order to characterize Lafayette's devouring ambition, hidden under a gentle and cold bearing, Riquetti has given him among the people the sobriquet of Cromwell-Grandisson.

That is to say, then, Mirabeau on December 3 fell in with the most radical of the Jacobins in sowing the impression that Lafayette was a most dangerous conspirator who required close watching. There seemed at that moment no immediate prospect that Lafayette would be displaced and that the guards would fall into the hands of the radicals and the sections of Paris. Then, like a thunderclap came Robespierre with the suggestion that since Lafayette could not be lifted from his office his office be legislated out from under him combined with a plan to make of the guards a body which by its interests would have been of necessity opposed to the constitution as then in process of creation. On the fifteenth of the month we find Mirabeau has changed front

altogether. The municipality of Marseilles had asked the Jacobins to indicate the attitude it ought to assume toward Lafayette. Evidently the drift of the debate made clear to Mirabeau that the answer would be unfavorable to the general. He took the floor again and while, to conceal his real object, he still represented Lafayette as harboring a criminal ambition and declared his attempt to influence the whole kingdom as a shameful presumption, he maintained that there was no occasion really to fear him because of the zeal, the courage and the patriotism of the Parisians who stood in his way as a check.[28] This was another of his renowned "oblique" marches, for his object was to prevent Lafayette from being denounced to the municipality of Marseilles. How successful he was may be gathered from the *Orateur du peuple* which said:

> Mirabeau spoke and the phantom of the generalship vanished before all eyes like the smallest cloud before the first rays of the sun.

Two days later the municipality of Marseilles was told that the society was not attached to any particular individual, but would not fail to denounce anyone who betrayed the public welfare.[29]

We have now before us the elements of the situation which produced the curious scene at the Jacobins on December 6. The

[28] Compare this with his contemptuous opinion of Paris expressed a few days later in his forty-seventh note to the court, Bacourt, II, 417–18. Among other things consider the following: "Cent folliculaires, dont la seule ressource est le désordre; une multitude d'étrangers indépendants, qui soufflent la discorde dans tous lieux publics; tous les ennemis de l'ancienne court; une immense populace, accoutumée depuis une année à des succès et à des crimes; une foule de grands propriétaires qui n'osent pas se montrer, parce qu'ils ont trop à perdre; la réunion de tous les auteurs de la révolution et de ses principaux agents; dans les basses classes, la lie de la nation; dans les classes plus élevées, ce qu'elle a de plus corrompu, voilà ce qui est Paris."

It would seem that if Lafayette had been the man for it, he might have found here the elements out of which to create a dangerous military power. It was precisely because Mirabeau knew that Lafayette would not betray the country, but that a less scrupulous man might do so, given Lafayette's opportunity, that he was not willing to take chances on a change such as Robespierre had attempted to bring about.

[29] Aulard, *Société des Jacobins*, I, 408–09.

incident is incomprehensible when viewed merely as an attempt on the part of Mirabeau to restrain a violent orator. There is no evidence even that Robespierre was anything more than radical in his logic and not at all incendiary in the ordinary manner of the street agitator. He was reading from his manuscript and therefore not giving way under the applause of his auditors. Are we, then, to believe that Mirabeau, supposed by his most intimate friend La Marck to be so solicitous about his popularity that he would scarcely risk it for the most important objects, interfered in this instance merely to protect a Jacobin rule of conduct which was in reality no longer being observed and which he himself had upon a previous occasion helped to infringe? Not only this; by his intervention he indirectly sustained his enemy Lafayette who was directly menaced. Stranger still, Charles Lameth, an enemy of both Lafayette and Mirabeau, came to the rescue of the latter at the imminent peril of involving himself in the catastrophe which threatened to overwhelm the president. It is necessary to assume, on the contrary, that not only Mirabeau, but the relatively conservative party of the Lameths as well, saw in the endeavor of Robespierre the near approach of a new revolution which would have swept the middle class out of control and with it the new constitution. As if a premonition, an apparition of the Terror had come to frighten them, they forgot all the everyday animosities and ordinary considerations of individual advantage and hazarded everything in order to stifle the danger in its incipiency.

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